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PUBLIC HEALTH ADMINISTRATION.

ITS DEPENDENCE UPON REPORTS OF CASES OF SICKNESS.

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The accomplishment of effective public health work depends largely upon the use of information obtained from the notification of cases of the preventable diseases. Adequate notification shows the occurrence, prevalence, and geographic distribution of these diseases, and without this knowledge attempts at their control are to varying degrees ineffective, and the proper protection of the health of the community is impossible.

Originally the duties of the health officer were very simple, and related only to the control of certain diseases associated with popular dread. As knowledge, however, of the causes of diseases and their means of spread has been acquired, the responsibilities of the health department have rapidly increased, so that at the present time the health department is properly the guardian of the community's health in so far as health can be conserved by the prevention or control of disease.

Only those diseases may be properly classed as preventable or controllable of which something is known of the cause or means of spread. Given this knowledge, the first and essential step in their prevention or control is the securing of information of the occurrence and location of the factors that produce disease and of the foci from which disease may spread. Of the communicable diseases a knowledge of the existence and location of cases is necessary, as each such case constitutes a focus from which the disease may spread. Of the diseases that are preventable but not communicable, a knowledge of the occurrence of cases and of the conditions under which they are occurring is necessary, as it shows the existence of the conditions which produce these diseases. This knowledge can be obtained only when the occurrence of cases is made known to some authority—that is, when cases are reported. Any attempt

at the prevention of disease will be at best incomplete and in large measure a makeshift unless it is based upon a knowledge of the occurrence and prevalence of disease.

The health department in a community is able to control disease in proportion to the completeness and exactness of its knowledge of the occurrence of cases. With full information of existing cases it can work effectively; it can direct its efforts at prophylaxis against the disease itself; it can work in the light of knowledge of the situation. Without such information its attempts at control must be of a general nature, sometimes effective, more often not, for it is working in the darkness of ignorance of the location and prevalence of that which it is attempting to control—as well hunt birds by shooting into every green bush, a practice that would cost much in ammunition and yield but poor results. If they are not reported there may be hundreds of cases of typhoid fever, or infantile paralysis, or scarlet fever, or smallpox in a locality, and the health officer not be aware that there are any present.

Tuberculosis is a communicable disease. With the exception of the relatively small proportion of cases contracted through milk from diseased cows each case is contracted directly or indirectly from some preexisting human case. To control this disease effectively, it is necessary that each case be known to the health department so that it may ascertain that the patient is not unnecessarily exposing others to infection. Tuberculosis is usually chronic in nature, and those affected frequently remain for months and sometimes years a focus from which the infection may spread to others. To control this disease the health department should make sure that the patients understand how to so conduct themselves that others may not be infected and that those associated with the sick know the manner in which the disease is spread and how to protect themselves from it. Then, too, the health department should know of those suffering from tuberculosis, as those so affected, for the protection of the community, should not engage in certain occupations in which they would be especially apt to spread the disease.

Typhoid fever is another disease in which the health department should be informed of the occurrence of each case. Every case of typhoid fever has potential possibilities for harm to the community through the contamination of water, milk, or other food supply. A knowledge of all cases is necessary for the protection of others, for each case is a focus from which, under suitable conditions, an outbreak may arise. When there are a number of cases of this disease, there is usually some one or more sources from which it is being spread, and it is only when cases are reported that the health department can ascertain their relationship to each other or their common source of infection when such exists. It is only through the notifica-

tion of cases that outbreaks due to infected milk or the infection of a common water supply can be recognized and proper remedies applied or that typhoid-bacillus carriers can be traced and controlled.

Scarlet fever is another common disease in which the need for the notification of cases is universally understood. Every case of this disease comes from some preexisting case. No community would expect and no health department would attempt to control this disease in the absence of the notification of the cases that were occurring. The same is true of plague, yellow fever, and cholera. There are many other diseases, however, in which the importance of the reporting of cases has not been generally appreciated, but in which the necessity is just as great if they are to be prevented. The necessity for notification exists in all preventable diseases. Their causes or methods of spread may be different and the measures necessary to prevent them may vary, but the notification of the occurrence of cases is essential in all for their successful control. The health department can not prevent the spread of diseases of the existence of which in the community it is unaware.

For purposes of public health administration, cases of the communicable diseases may be divided into four groups, namely: First, the well-marked cases; second, the mild, concealed cases; third, the mild unrecognized cases; and, fourth, the well, or apparently well, carriers. To prevent the spread of these diseases control of all four groups is necessary. The control of only the first group by quarantine or other means, a practice by no means uncommon, is of little value in preventing the spread of these diseases, as the well-marked cases usually come less in contact with others than do the cases of the other groups, and are likely, therefore, to be less potent factors in spreading infection. The well-marked cases are presumably usually reported. The mild cases should also be reported. The notification of the cases in the first two groups should enable a well-organized health department to discover most of those in the other two by a careful study of the conditions under which the reported cases occur. To find the unrecognized cases and carriers, to which is largely due the spread of the communicable diseases, is a prime duty of the health officer. The accomplishment of this requires intelligence and watchfulness and will be possible in proportion to the completeness with which the recognized cases are reported.

But the health department of a city, township, or county needs to know not only of the occurrence and prevalence of disease in its own jurisdiction, but also of the prevalence of disease in neighboring cities, towns, and counties, so that it may be informed of the possibility of the introduction of disease from other communities. The prevalence of infectious diseases in every city and county has an important bearing on the welfare of every other city and county in a State. In a

well-organized State, therefore, the local health authorities keep the State health department currently informed of the prevalence of disease in their respective jurisdictions, that the information may be made available to the various local authorities and that the State department, acting in its broader field as the agent and representative of all localities and all the people, may perform its proper functions in the prevention and control of disease. Without the information of the prevalence and geographic distribution of disease obtainable in this way the State health department will remain in ignorance of the sanitary condition of the State, and, because of this lack of knowledge, will be unable to perform its proper functions and will therefore constitute a health department largely in name only.

In addition, a State health department needs for the proper performance of its functions a knowledge of the prevalence of disease more extensive than that of its own State. It needs to know of the prevalence of disease in neighboring States and even in those more remote. It is as necessary that one State should know of the prevalence of disease in other States as that a city should know of the prevalence of disease in surrounding communities. Therefore, to complete the usefulness of the health organization it is important that the States report to some national agency the occurrence of disease in their various jurisdictions, that the information may be made available to the several States, and that the national health service, acting as the representative of all the States, may, when occasion arises, perform those functions with which it has been intrusted and for which it has been made responsible. A resolution providing for reports of this kind by the States for the purpose of making available current information of the prevalence and geographic distribution of the notifiable diseases was adopted in June, 1912, by the State and Territorial health authorities in conference with the United States Public Health Service.¹

Thus, it is apparent that the notification of cases of the preventable and controllable diseases is the only satisfactory foundation upon which public-health work—local, State, or national—can be built. There is no other foundation upon which work that will yield a proper return for the amount expended can rest, nor is there likely to be for a long time to come. Public-health work based upon the knowledge furnished by the notification of cases is not only the only rational and effective work, but is the only one that gives results commensurate with the outlay and effort made.

A discussion of either public health organization or the notification of disease—morbidity reports—would be incomplete without a consideration of the relation of the practicing physician to the subject. The person responsible in most cases for the reporting to the

¹ See Public Health Reports, Vol. XXVII, No. 23, June 7, 1912, p. 895.

proper authorities of the occurrence of cases of the notifiable diseases is necessarily the practicing physician who first comes in contact with such cases. The practicing physician constitutes the picket of the health organization, the sentinel who must give the first notice of the presence of disease and upon whom rests the responsibility of discovering and reporting new cases as they occur. The practicing physician, therefore, constitutes in reality an essential part of any plan of health administration.

The physician is engaged in a work which places him in a position of especial and peculiar responsibility to the community, a work which carries with it moral and usually statutory obligations, upon the proper fulfillment of which depends to a large degree the ability of the health department to perform its functions. The requiring of those desiring to practice to pass an examination and to be duly licensed and registered is a partial recognition of this, and presumably such licenses are given on the assumption that the recipient will comply with the requirements imposed upon physicians by law, among which is invariably the duty of reporting cases of certain diseases coming to his knowledge. The physician who does not comply with such statutes not only places himself in the class of those who violate the law, but shows himself indifferent to his moral obligations as they affect the welfare of the community. It would be well to give more definite recognition to the relationship the physician holds to the health department and to the community. Such recognition would undoubtedly be agreeable to physicians and bring them into closer cooperation with the health authorities in whose jurisdictions they practice.

The citizen also should cooperate with the health department. The individual who objects to complying with the requirements regarding the notification of disease when they apply to himself or his household can not expect his neighbors or associates to report the cases in their families. The moral obligation of the individual to his neighbors and the community is such that he should make the same effort to protect them from his illnesses as he expects them to make to protect him. The health officer needs the assistance of the people at least to the extent of complying with the health laws, and the requirements for the notification of sickness are among those to which especial attention should be paid. The health officer is the servant of the community. He is the one employed by the people to look after their health interests, taken in the aggregate. It is no more rational to employ a health officer and then not give him every facility and assistance for accomplishing the things for which he has been employed than it would be to hire a gardener and then not supply him with tools.

As the local health department expects to have cases of the notifiable diseases reported to it by physicians, so it should give every assistance to the State health department by keeping the State department informed of the sanitary status and occurrence of disease in its local jurisdiction. If there is law or regulation requiring the city, town, or county authorities to notify the State, this is sufficient reason. In the absence of law, however, the importance of the matter, and the fact that both State and local health departments are working for a common end, is sufficient reason why the local authorities should give all possible assistance to the State, and especially should report the occurrence of the preventable diseases in so far as it has the information. No city can be so large nor its health department so efficient that it is relieved of this obligation. The larger the city and the better equipped its health department the greater the obligation to the State, just as the more influential and prominent the citizen the greater his obligations to the community. The local health department that does not cooperate with the State authorities has but little moral right to expect the citizens within its jurisdiction to render to it any assistance beyond that insisted upon by the courts or inspired by fear of fines or imprisonment. The local health department and its jurisdiction are to the State department what the individual and his household are to the local department.

On the other hand, the State, too, in so far as the control and prevention of disease is concerned, is but a unit. Disease is no more a respecter of State boundaries than it is of those of counties or municipalities. It ignores such boundaries established by man. What the household is to the municipality, and the city and county to the State, the State is to the Nation.

With the several States alone responsible under the Constitution for the sanitary conditions and public health administration within their respective boundaries in so far as these do not affect the welfare of other States, and with a large part of this responsibility in many instances delegated by the States to local authorities, a comprehensive plan of public health administration will need to be one of cooperation. Within the States it will need to be one of cooperation of the local authorities acting with and through the State health departments, and for the Nation a cooperation of the State health authorities with the Federal Public Health Service.

USE OF FINGER BOWLS.

AN OBJECTIONABLE CUSTOM AS SOMETIMES PRACTICED.

A Note by C. H. LAVINDER, Surgeon, United States Public Health Service.

A recent bulletin of the service (Public Health Bulletin No. 57) reviews the subjects of common drinking cups and roller towels, and gives the laws relating thereto. Neither in this bulletin nor elsewhere have I ever seen any reference to an abuse which it seems to me is of little less importance than the common drinking cup, and the dangers from which are of quite a similar character. This is the use of the common finger bowl.

It seems to be customary even in high-class restaurants to have in use about half a dozen finger bowls, more or less, and these do service for many patrons. The water in them seems to be changed at rare intervals and entirely in the discretion of the waiter. Occasionally one will see the old water poured out and fresh poured in, but far more frequently even this is not done. I presume the bowls must be taken out and washed occasionally. Now, when one considers that many persons in using these bowls wash not only their fingers but their lips as well, it would seem that the conditions of the common drinking cup are different only in degree. Moreover with the finger bowl it is not only the question of using a common bowl but often common water also.

Since I first noticed in some hotels and restaurants this disgusting manner of serving these convenient accessories of a table service, I have taken some pains to learn how widespread such a thing might be, and my observations lead me to the belief that it is very common indeed. I am inclined to think that the common finger bowl should be classed with the common drinking cup, as an offense of the same character, but possibly less in degree.

HOOKWORM DISEASE.

PROPORTION OF MALES TO FEMALES IN THE AMERICAN HOOKWORM (*NECATOR AMERICANUS*), BASED ON 13,080 WORMS FROM 102 CASES.¹

By CH. WARDELL STILES, Professor of Zoology, and W. L. ALTMAN, Assistant, Hygienic Laboratory, United States Public Health Service.

The point was raised by Leichtenstern in 1885 that by counting the male and female hookworms passed by a patient and drawing the proportion, the clinician has a practical clue to the completeness or incompleteness of the cure effected. This point was based upon the premises that the males and the females are present in relatively fairly constant proportion and that the males are more difficult to expel than are the females.

¹ Read at the XV International Congress on Hygiene and Demography, Washington, September, 1912.

This view of Leichtenstern, based upon the Old World hookworm (*Ancylostoma duodenale*), appears to be one that might in certain cases be of practical importance, and it seemed wise, therefore, to test it as applied to our American hookworm.

The opinion seems to prevail that in case of *Ancylostoma duodenale* the female worms are much more numerous than the males. Bearing on this point the following data are found in our notes (absence from library facilities at present prevents us from consulting some of the original articles):

Bilharz (1853, 55), Heller (1876b, 778), and R. Blanchard (1888a, 765) report 1 male to 3 females. White (1867, 427) states that the males are less numerous than the females. The following cases are reported with the number of males and females passed:

Number of—				Author.
Cases.	Worms.	Males.	Females.	
1	169	38	131	Leichtenstern, 1885, 501.
1	45	10	35	Do.
1	306	83	223	Do.
1	695	235	460	Leichtenstern, 1885, 501, Schumacher's case.
1	142	0	142	Leichtenstern, 1886, 217, Schulthess's case.
1	647	188	459	Do.
1	64	13	51	Do.
1	250	0	250	Do.
1	153	1	152	Do.
1	135	20	115	Do.
1	230	8	222	Do.
11	2,836	596	2,240	

In the foregoing 11 cases it is clear that the females (78 per cent) are in excess of the males (21 per cent). In 7 cases from Schulthess the females and males were about 6 to 1.

Leichtenstern (1886, 216-217) quotes two series of cases from Schulthess, as follows:

Number of—			
Cases.	Worms.	Males.	Females.
26	6,134	1,811	4,323
(?)	4,111	1,367	2,744
26+	10,245	3,178	7,067
		31 per cent.	68 per cent.

In these two series also it is clear that the females (68 per cent) are in excess of the males (31 per cent). In the series of 26 cases the variation was between 10 males to 360 females and 10 males to 11 females.

Leichtenstern remarks that the males may roll themselves up in the feces and be overlooked. He also states that cases occur in

which only the females appear for two days after the anthelmintic; then the males appear.

From the foregoing statistics, based upon *Ancylostoma duodenale*, we were prepared to find similar conditions in the case of *Necator americanus*, especially since Lutz (who probably had *Necator* before him) is quoted as reporting for 3,000 worms a proportion of 3 females to 2 males.

In hospital work we usually have hookworm patients under observation only one day per week. It becomes necessary to inquire, therefore, into the number and proportion of worms passed in successive stools and on successive days in order to have an indication of the proportion of worms that escape collection on the day of treatment.

Number of worms and proportion of sexes found in successive stools on day of thymol treatment.—The stools may follow each other so slowly or so rapidly, namely, so ununiformly, that a tabulation by actual stools has been followed in only a very few instances.

Case No. 3 (age 21 years) of our 1911 series shows the following data on day of treatment; dose, 45 grains of thymol:

Stool.	Males.	Females.	Total.
First.....	20	4	33
Second.....	(7)	(7)	61
Third.....	0	1	1
Total, 3.....	20+	5+	95

Although in the second stool the males and the females were not separated, it is clear that in the first stool the males were greatly in excess of the females, and therefore that they were not more difficult to expel.

Case No. 63 (age 16) of our 1911 series shows the following data on first treatment; dose, 10 grains of thymol. (The patient had received one treatment before he came to the marine hospital.)

Date and number of stool.	Males.		Females.		Total worms.	Per cent of 347.
	Number.	Per cent.	Number.	Per cent.		
Aug. 4:						
First.....	1	50	1	50	2	0.57
Second.....	30	39.6	76	60.3	126	36.3
Third.....	48	44	61	55	109	31.4
Fourth.....	18	60	12	40	30	8.6
Fifth.....	21	36.8	36	63	57	16.4
Aug. 5:						
Sixth.....	13	68	6	31	19	5.4
Seventh.....	2	50	2	50	4	1.1
Total.....	153	44	194	55	347	100.00

In this treatment it is clear (a) that the female worms were in excess of the males for the total treatment (7 stools) and for stools Nos. 2, 3, and 5; (b) that the males and females were equal in stools Nos. 1 and 7; and (c) that the males were in excess in stools Nos. 4 and 6.

The two cases cited do not seem to give us any clue of practical value in use of statistical data as to sexes in their order of expulsion in a given treatment.

In our notes we find two literature references for comparison. E. Parona, according to R. Blanchard (1888a, 765) reports a case as follows: First stool contained 8 males and 104 females, total 112 worms; second stool contained 16 males and 19 females, total 35 worms; third stool contained 107 males and 66 females, total 173 worms.

Blanchard (1888a, 765) also reports a case from Leichtenstern as follows: First stool contained 10 males and 124 females, total 134 worms; second stool contained 28 males and 7 females, total 35 worms.

It is not clear to us whether Parona's case involved 3 courses of treatment or 3 stools after 1 course of treatment, but our notes give the following data for Leichtenstern's (1885, 101) case: First treatment, 15 extr. fil. mar.,¹ first 4 days; 10 males and 124 females, total 134 worms. Second treatment, 10 extr. fil. mar.,¹ 28 males and 7 females, total 35 worms. Total, 38 males and 131 females. Grand total, 169 worms.

Accordingly, positive data for comparison between *Necator americanus* and *Ancylostoma duodenale*, in respect to the point under discussion, are not available to us at present.

Duration of passage of worms after thymol.—In hospital work the average hookworm patient is, as stated above, usually under observation for only about 18 to 24 hours at a time. He is admitted to the wards late in the afternoon or early in the evening. He takes his thymol the next morning. By 1 to 4 o'clock in the afternoon he is over the effects of the salts and thymol to such an extent that he either desires to go home or from a financial (administrative) point of view there is little or no justification in retaining him longer. Accordingly, under ordinary circumstances, opportunity is presented to collect the worms passed only up to 3 or 5 p. m. of the day of treatment. While this permits, doubtless, the collection of most of the worms, a number escape the observer, for they continue to pass for three or four days or more, as the following cases show.

¹ German equivalent for *Oleoresina aspidii* of the United States pharmacopœia.

CASE NO. 63.

Date.	Thymol.	Worms.				Total.	Per cent of total of each treatment.
		Male.		Female.			
		Number.	Per cent.	Number.	Per cent.		
	<i>Grains.</i>						
Aug. 4.....	10	138	42.5	186	57.5	324	86
Aug. 5.....	0	15	65.2	8	34.8	23	6
Aug. 6.....	0	6	23.2	21	77.8	27	7.2
Total.....	10	159	42.5	215	57.5	374	.....
Aug. 9.....	10	1	25	3	75	4	80
Aug. 9.....	0	0	0	1	100	1	20
Aug. 10.....	0	0	0	0	0	0	0
Total.....	10	1	20	4	80	5	.....

CASE NO. 179.

Date.	Thymol.	Worms.				Total.	Per cent of total of each treatment.
		Male.		Female.			
		No.	Per cent.	No.	Per cent.		
	<i>Grains.</i>						
July 3.....	15	19	43.1	25	56	44	95.6 per cent of 46.
July 4.....	0	0	0	1	100	1	2.2 per cent of 46.
July 5.....	0	0	0	0	0	0	
July 6.....	0	0	0	0	0	0	
July 7.....	0	0	0	0	0	0	
July 8.....	0	0	0	1	100	1	2.2 per cent of 46.
Total.....	15	19	41.3	27	58.7	46	
July 21.....	25	29	41	41	58	70	77.8 per cent of 90.
July 22.....	0	4	100	0	0	4	4.4 per cent of 90.
July 23.....	0	4	50	4	50	8	8.9 per cent of 90.
July 24.....	0	0	0	1	100	1	1.1 per cent of 90.
July 25.....	0	3	50	3	50	6	6.7 per cent of 90.
July 26.....	0	0	0	1	100	1	1.1 per cent of 90.
Total.....	25	40	44.4	50	55.6	90	
July 27.....	30	5	22.7	17	77.3	22	73.3 per cent of 30.
July 28.....	0	0	0	0	0	0	
July 29.....	0	0	0	2	100	2	6.7 per cent of 30.
July 30.....	0	1	25	3	75	4	13.3 per cent of 30.
July 31.....	0	0	0	0	0	0	
Aug. 1.....	0	0	0	0	0	0	
Aug. 2.....	0	1	50	1	50	2	6.7 per cent of 30.
Total.....	30	7	23.3	23	76.7	30	
Aug. 3.....	30	6	35.3	11	64.7	17	100 per cent of 17.
Aug. 4.....	0	0	0	0	0	0	
Total.....	30	6	35.3	11	64.7	17	

CASE NO. 200.

Date.	Thymol.	Worms.				Total.	Per cent of total of each treatment.
		Males.		Females.			
		Number.	Per cent.	Number.	Per cent.		
	<i>Grains.</i>						
Aug. 12.....	45	275	46.8	312	53.1	587	96.2
Aug. 13.....	0	0		0		0	
Aug. 14.....	0	7	53.8	6	46.1	13	2.1
Aug. 15.....	0	3	30	7	70	10	1.6
Aug. 16.....	0	0		0		0	
Total.....	45	285	46.7	325	53.2	610	100
Aug. 17.....	45	48	52.7	43	47.2	91	96.8
Aug. 18.....	0	0		0		0	
Aug. 19.....	0	1	33.3	2	66.2	3	3.1
Aug. 20.....	0	0		0		0	
Aug. 21.....	0	0		0		0	
Total.....	45	49	52.1	45	47.8	94	100
Aug. 22.....	45	10	47.6	11	52.3	21	77.7
Aug. 23.....	0	0		0		0	
Aug. 24.....	0	5	83.3	1	16.6	6	22.2
Total.....	45	15	55.5	12	44.4	27	100
Aug. 25.....	45	0		2	100	2	100

From the foregoing cases it is clear that all worms expelled by a given course of treatment need not necessarily be passed on the day of treatment, but while about 75 to 95 per cent of the specimens expelled may be passed within 12 hours after the drug is administered, worms may continue to pass for 5 or 6 days.

It further seems evident from the foregoing records that the males and females do not follow any regular order in passing which can be used as a practical indication as to the completeness or incompleteness of the cure.

Two practical conclusions are to be drawn from the foregoing data.

(1) Since 75 to 95 per cent of the worms pass during the first 12 hours after administration, all hospital records that give the number of worms collected during this period are subject to a theoretical error of about 5 to 33 per cent; that is to say, the actual number of worms passed may be from one-twentieth up to one-third larger than actually reported. This point should be borne in mind when comparing statistics derived from treatment with statistics derived from autopsy not preceded by treatment.

(2) It occasionally occurs that on the day of treatment not a single worm is collected, but later microscopic examination is negative. Probably the correct conclusion is that the worms have been passed after the patient has been discharged.

Proportion of male and female hookworms passed after thymol treatment.—In nearly all of the following cases the worms were collected

within 12 hours (namely, by 6 p. m.) after the first dose of thymol (which is given at 6 a. m.).

Two groups of cases, each with three subgroups, may be compared.

In the first group are found 58 cured male cases, arranged in three subgroups according to the preponderance of male worms, equal number of males and females, and preponderance of female worms.

Of these 58 patients, 18 cases (or 31 per cent) showed more male (59 per cent) than female (40 per cent) hookworms; 5 cases (8 per cent) have an equal number of male and female worms; 35 cases (60 per cent) have an excess of females. Thus, on a basis of these cases, the chances are about 6 out of 10 that there will be an excess of females, but this percentage is not high enough to put to any practical account in determining, by counting the males and females collected, whether or not the patient is entirely freed from his worms. In fact, the labor involved would be much greater, more tedious, and more disagreeable than the labor involved in making a new microscopic examination a few days later.

The 18 cases with an excess of males showed 1,378 worms, 821 of which (or 59 per cent) were males, and 557 of which (or 40 per cent) were females.

The 5 cases with equal number of male and female worms were all light infections, averaging only 11.6 worms each.

The 35 cases with more females than males showed 6,524¹ worms, 2,797 of which (or 43 per cent) were males, and 3,727 of which (or 57 per cent) were females.

Of the total 7,960¹ worms collected from the 58 cases, 3,647 specimens (or 45 per cent) were males, and 4,313 specimens (or 54 per cent) were females.

In respect to number of worms present, the cases with equal males and females averaged the smallest number of worms (11), those with an excess of males came next (76), and those with an excess of females came next (186). The average was 137 worms. Thus, in general, the heaviest infections were those with the largest number of females, but this is not of much significance since only 9 of the 35 female-excess cases were above the average (139) in number of worms present, while 2 of the 18 male-excess cases were above the average.

The "cured"² cases are given in the following table.

¹ Plus 26 worms, the sex of which was not determined.

² "Cured" means that later microscopic examination was negative.

Tabulation of 58 cured male hospital cases according to total number of worms and preponderance of sex of parasites.

A. EIGHTEEN CASES WITH EXCESS OF MALES.

Case No.	Worms.			Case No.	Worms.		
	Total.	Males.	Females.		Total.	Males.	Females.
111.....	474	277	197	31.....	37	21	16
26.....	143	74	69	55.....	9	6	3
163.....	138	82	56	139.....	8	5	3
11.....	111	65	46	58.....	7	6	1
144.....	97	58	39	92.....	7	4	3
29.....	95	68	27	73.....	6	4	2
66.....	72	37	35	15.....	1	1	0
67.....	68	36	32	125.....	1	1	0
103.....	62	45	17				
165.....	42	31	11	Total (18)....	1,378	821	557

B. FIVE CASES WITH EQUAL MALES AND FEMALES.

42.....	44	22	22	62.....	2	1	1
53.....	6	3	3				
170.....	4	2	2	Total (5).....	58	29	29
169.....	2	1	1				

C. 35 CASES WITH EXCESS OF FEMALES.

78.....	2,251	1,049	1,202	80.....	17	4	13
110.....	1,142	564	578	75.....	14	5	9
63.....	633	234	399	52.....	11	5	6
39.....	538	254	284	87.....	8	3	5
24.....	506	173	333	90.....	7	3	4
23.....	285	99	196	108.....	7	3	4
27.....	170	77	93	109.....	6	2	4
41.....	167	52	115	93.....	5	1	4
119.....	150	43	107	13.....	4	1	3
44.....	113	55	58	7.....	3	0	3
83.....	92	16	76	89.....	3	0	3
34.....	80	35	45	172.....	2	0	2
56.....	73	27	46	153.....	2	0	2
21.....	72	32	40	91.....	1	0	1
92.....	58	24	34	140.....	1	0	1
32.....	28	11	17	88.....	1	0	1
70.....	24	9	15				
157.....	21	10	11	Total (35)....	6,524	2,797	3,727
74.....	19	6	13				

¹ 59 per cent.
² 40 per cent.

³ 50 per cent.
⁴ Plus 26, sex not counted.

⁵ 43 per cent.
⁶ 57 per cent.

D. SUMMARY OF 58 CURED CASES.

	Cases.	Total.	Worms.	
			Males.	Females.
A.....	18	1,378	821	557
B.....	5	58	29	29
C.....	35	6,524	2,797	3,727
Total.....	58	7,960	3,647	4,313

¹ Plus 26, sex of which was not determined:

² 45 per cent.

³ 54 per cent.

For comparison with these 58 complete cures, 44 male hospital cases can be presented in connection with which it is either definitely known that later microscopic examination (in 1911) was positive

(hence the cure was incomplete), or through failure to obtain specimens the completeness or incompleteness of the cure was left in doubt.

Of these 44 cases, 19 patients (or 43 per cent) showed an excess of males; there was a total of 2,738 worms, 1,468 of which (or 53 per cent) were males and 1,270 of which (or 46 per cent) were females. These percentages are not very different from those of the corresponding cured cases.

Of the 44 cases, 4 patients (or 9 per cent) showed an equal number of males and females. All were light infections, averaging only 10.5 worms each.

Of the 44 cases, 21 patients (or 47 per cent) showed an excess of females; of a total of 2,340 worms, 1,001 specimens (or 42 per cent) were males, and 1,339 specimens (or 57 per cent) were females.

The cases in question are tabulated as follows:

Tabulation of 44 male hospital cases, some with incomplete cure, some without final data as to cure, arranged according to total number of worms and preponderance of sex of parasites.

A. NINETEEN CASES WITH EXCESS OF MALES.

Case No.	Worms.			Case No.	Worms.		
	Total.	Male.	Female.		Total.	Male.	Female.
85.....	710	387	323	20.....	11	6	5
57.....	695	353	342	46.....	10	7	3
94.....	366	188	178	65.....	9	5	4
69.....	315	163	152	115.....	7	4	3
141.....	172	89	83	95.....	5	5	0
12.....	158	82	76	79.....	5	3	2
9.....	85	60	25	97.....	5	3	2
47.....	70	39	31	145.....	3	3	0
88.....	58	31	27				
3.....	34	29	5				
143.....	20	11	9				
				Total (19)....	2,738	¹ 1,468	² 1,270

B. FOUR CASES WITH EQUAL MALES AND FEMALES.

158.....	18	9	9	104.....	4	2	2
74.....	10	5	5				
118.....	10	5	5	Total (4)....	42	³ 21	³ 21

C. TWENTY-ONE CASES WITH EXCESS OF FEMALES.

68.....	366	158	208	72.....	16	7	9
30.....	347	163	184	35.....	15	5	10
45.....	315	128	187	126.....	9	3	6
10.....	257	109	148	33.....	7	3	4
99.....	256	125	131	136.....	5	0	5
117.....	199	91	108	105.....	4	0	4
16.....	170	62	108	137.....	4	1	3
2.....	113	39	74	6.....	4	1	3
1.....	93	43	50	154.....	3	0	3
71.....	86	40	46				
5.....	39	13	26				
116.....	32	10	22				
				Total (21)....	2,340	⁴ 1,001	⁵ 1,339

¹ 53 per cent.

² 46 per cent.

³ 50 per cent.

⁴ 42 per cent.

⁵ 57 per cent.

Tabulation of 44 male hospital cases, some with incomplete cure, some without final data as to cure, arranged according to total number of worms and preponderance of sex of parasites—Continued.

D. SUMMARY.

	Cases.	Worms.		
		Total.	Male.	Female.
A.....	19	2,738	1,468	1,270
B.....	4	42	21	21
C.....	21	2,340	1,001	1,339
Total.....	44	5,120	¹ 2,490	² 2,630

¹ 48 per cent.² 51 per cent.

Comparing these statistics with the sex statistics of the cured cases, it is not evident that the proportion of the sexes gives us any practical clue to the question whether our patient is or is not cured.

Combining the two sets of statistics we have the following table:

Table of worms, by sex, in 102 cases.

	Cases.	Total.	Male.		Female.		Average per case.
			Number.	Per cent.	Number.	Per cent.	
Cured.....	58	¹ 7,960	3,647	46	4,313	53	137
Others.....	44	5,120	2,490	48	2,630	51	116
Total.....	102	¹ 13,080	6,137	46	6,943	53	128

¹ Plus 26 worms, sex of which was not determined.

Proportion of male and of female worms passed in different treatments of 58 cases.—The following 58 cases of complete cures give data as to sex of parasites passed in successive treatments:

A. FORTY-THREE CASES CURED IN ONE TREATMENT.

Case No.	Age.	Thymol.	Worms collected.				
			Total.	Males.		Females.	
				Number.	Per cent.	Number.	Per cent.
		<i>Grains.</i>					
134.....	14	25	0	0	0	0	0
70.....	24	60	24	9	37	15	62
144.....	37	60	97	58	59	39	40
119.....	14	20	150	43	28	107	71
7.....	16	30	3	0	0	3	100
41.....	23	60	167	52	31	115	68
165.....	8	10	42	31	73	11	• 26
91.....	10	20	1	0	0	1	100
74.....	10	20	19	6	31	13	68
93.....	7	15	5	1	20	4	80
140.....	13	25	1	0	0	1	100
139.....	30	60	8	5	62	3	37
21.....	20	45	72	32	44	40	55
13.....	14	30	4	1	25	3	75
90.....	12	30	7	3	42	4	57

A. FORTY-THREE CASES CURED IN ONE TREATMENT—Continued.

Case No.	Age.	Thymol.	Worms collected.				
			Total.	Males.		Females.	
				Number.	Per cent.	Number.	Per cent.
		<i>Grains.</i>					
58.....	20	50	7	6	85	1	14
157.....	12	25	21	10	47	11	52
31.....	19	45	37	21	57	16	43
55.....	14	25	9	6	66	3	33
92.....	36	50	58	24	41	34	58
42.....	25	45	44	22	50	22	50
73.....	26	42.5	6	4	66	2	33
170.....	11	25	4	2	50	2	50
169.....	11	25	2	1	50	1	50
125.....	13	25	1	1	100	0	0
109.....	12	25	6	2	33	4	66
92.....	9	20	7	4	57	3	42
88.....	5	7.5	1	0	0	1	100
53.....	60	50	6	3	50	3	50
87.....	33	50	8	3	37	5	62
172.....	7	15	2	0	0	2	100
29.....	21	60	95	68	71	27	28
163.....	13	20	138	82	59	56	40
80.....	31	60	17	4	23	13	76
153.....	9	20	2	0	0	2	100
89.....	9	20	3	0	0	3	100
108.....	14	30	7	3	42	4	57
32.....	38	60	28	11	39	17	60
56.....	16	20	73	27	37	46	63
62.....	11	15	2	1	50	1	50
52.....	20	45	11	5	45	6	54
34.....	29	40	80	35	43	45	56
26.....	21	60	143	74	51	69	48
Total.....		1,485	1,418	660	46	758	53

B. SIX CASES CURED IN TWO TREATMENTS.

75.....	5	10	13	4	30	9	69
		10	1	1	100	0	0
Total.....		20	14	5	35	9	64
67.....	12	20	63	34	54	29	46
		20	5	2	40	3	60
Total.....		40	68	36	53	32	47
11.....	13	20	97	59	60	38	39
		25	14	6	42	8	57
Total.....		45	111	65	58	46	41
110.....	15	25	1,094	539	49	555	50
		25	48	25	52	23	47
Total.....		50	1,142	564	49	578	51
83.....	18	50	83	16	19	67	80
		50	9	0	0	9	100
Total.....		100	92	16	17	76	82
15.....	27	60	1	1	100	0	0
		60	0	0	0	0	0
Total.....		120	1	1	100	0	0
Aggregate (6).....		375	1,428	687	48	741	51

C. SIX CASES CURED IN THREE TREATMENTS.

103.....	6	7.5	23	17	73	6	26
		10	20	15	75	5	25
		10	19	13	68	6	31
Total.....		27.5	62	45	72	17	27

C. SIX CASES CURED IN THREE TREATMENTS—Continued.

Case No.	Age.	Thymol.	Worms collected.				
			Total.	Males.		Females.	
				Number.	Per cent.	Number.	Per cent.
111.....	10	Grains. 20 20 20	449 22 3	266 11 0	59 50 0	183 11 3	40 50 100
Total.....		60	474	277	58	197	41
44.....	12	10 10 20	113 0 0	55 0 0	48 0 0	58 0 0	51 0 0
Total.....		40	113	55	48	58	51
27.....	13	20 20 30	122 25 23	56 12 9	45 48 39	66 13 14	54 52 60
Total.....		70	170	77	45	93	54
66.....	14	20 20 25	54 8 10	28 4 5	51 50 50	26 4 5	48 50 50
Total.....		65	72	37	51	35	48
39.....	16	20 25 30	369 162 7	183 68 3	49 41 42	186 94 4	50 58 59
Total.....		75	538	254	47	284	52
Aggregate (6).....		337.5	1,429	745	52	684	47

D. ONE CASE CURED IN FOUR TREATMENTS.

78.....	17	25	2,246	1,048	46	1,198	53
		25	26	(?)	(?)	(?)	(?)
		25	2	1	50	1	50
		25	3	0	0	3	100
Total.....		100	2,277	1,049+	47	1,202+	53

E. ONE CASE CURED IN FIVE TREATMENTS.

23.....	10	12	54	40	74	14	25
		15	11	5	45	6	54
		12.5	218	52	23	166	76
		15	1	1	100	0	0
		20	11	1	9	10	90
Total.....		74.5	295	99	33	196	66

F. TWO CASES CURED IN SEVEN TREATMENTS.

24.....	12	20	109	49	44	60	55
		20	267	91	34	176	65
		20	53	15	28	38	71
		25	24	6	25	18	75
		25	36	10	27	26	72
		25	8	2	25	6	75
		25	9	0	0	9	100
Total.....		160	506	173	34	333	65
63.....	16	10	374	159	42	215	57
		15	5	1	20	4	80
		25	218	67	30	151	69
		15	0	0	0	0	0
		25	15	2	13	13	86
		30	19	4	21	15	78
		30	2	1	50	1	50
Total.....		150	633	234	36	399	63
Aggregate (2).....		310	1,139	407	35	732	64

Tabulating the summaries according to the number of treatments, we obtain the following:

	Cases.	Treatments to cure.	Worms.				
			Total.	Males.		Females.	
				Number.	Per cent.	Number.	Per cent.
A.	43	1	1,418	660	46	758	53
B.	6	2	1,428	687	48	741	51
C.	5	3	1,429	745	52	684	47
D.	1	4	2,251	1,049+	46	1,202+	53
E.	1	5	295	99	33	196	66
F.	2	7	1,139	407	35	732	64
Total.	59	96	7,960	3,647+	46	4,313	53

¹ The 58 cases given on p. 14, plus 1 case, in which worms were not found in the stools.

² Plus 26, sex of which was not determined.

From these tables it is not evident that the greater the percentage either of males or of females the greater the number of treatments necessary. Accordingly,¹ it is not evident that there is any striking difference in difficulty in expelling males or females, so far as the number of treatments is concerned.

SUMMARY.—In view of the statements published in reference to the proportion of the sexes in *Ancylostoma duodenale*, a study of the statistics in 102 cases of infection with *Necator americanus* is distinctly disappointing, and the conclusion seems justified that whatever may be the practical value of estimating the sexes of *A. duodenale*, from a standpoint of obtaining a clue as to whether or not the cure is complete, this method of procedure, as applied to the average hospital case of *N. americanus*, does not appear to present any practical advantage. In fact, the method is much more tedious, more time consuming, and less reliable than our present method of microscopic examination, and therefore its adoption in our hook-worm-eradication campaign is not to be recommended.

As a purely academic matter, it is interesting to note that of 13,080 specimens of *Necator americanus* collected from 102 cases 46 per cent of the specimens were males and 53 per cent were females; but the proportion for different cases varied, some cases presenting more males than females, others more females than males.

Of 102 cases examined 37 presented an excess of males, 9 presented an equal number of males and females, and 56 presented an excess of females.

In 58 cured cases in New Hanover County, N. C., the greatest number of worms collected from any one case was 2,277; the smallest number 1; the average number 135.

About 75 to 95 per cent of the worms of a given course of treatment may be passed within 12 hours after the early (6 a. m.) dose

of thymol, and worms may continue to pass for several, apparently for at least 6, days following.

From this latter fact the important practical conclusion may be deduced that treatment once per week, as is usual at present, is as frequent as it seems either necessary or wise to give it. Treatment more often than once a week may be entirely unnecessary, even if eggs be found the fifth day after treatment; and since the factor of safety to the patient should be constantly held in mind, thymol treatment oftener than once a week seems justified only in exceptional cases which may present special features or circumstances that indicate the practicability of more frequent dosage.

SANITARY LEGISLATION.

STATE LAWS AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

MISSISSIPPI.

BUREAU OF VITAL STATISTICS ESTABLISHED—SECRETARY OF STATE BOARD OF HEALTH TO ACT AS STATE REGISTRAR OF VITAL STATISTICS—MORBIDITY REPORTS—REGISTRATION OF BIRTHS AND DEATHS (AN ACT APPROVED MARCH 11, 1912).

SECTION 1. *Be it enacted by the Legislature of the State of Mississippi*, That a bureau of vital statistics shall be established by the State board of health, which shall provide an adequate system for the registration of births and deaths and the preservation of vital statistics on forms prescribed by said board of health, and provide adequate methods for enforcing the laws and orders of the board relating to health matters of the State.

SEC. 2. That the secretary of the State board of health shall act as State registrar of vital statistics, and his compensation for said duties shall be fixed by the said board, and it shall be his duty to carry in effect the rules, regulations, and orders of the State board of health provided for this bureau of vital statistics; and the said board shall provide for such clerical and other assistance as may be necessary for the purposes of this act, and may fix the compensations of persons thus employed within the amount appropriated for the health work by the legislature, and provide suitable apartments, properly equipped with fireproof vaults and filing cases for the permanent and safe preservation of all official records made and returned to said bureau.

SEC. 3. That for the purposes of this act the said State board of health may divide the State into registration districts, defining and designating the boundaries thereof and appointing local registrars in each district.

SEC. 4. That the said board of health shall formulate and promulgate rules and regulations for the proper reporting and registration of morbidity and vital statistics, prescribing the method and form of making such registration.

SEC. 5. That any copy of the records of births, sickness, or death, when properly certified to by the State registrar of vital statistics to be a true copy thereof, shall be prima facie in all courts and places of the facts therein stated.

SEC. 6. That each local registrar shall be paid the sum of 25 cents for each birth and death certificate properly made out in the manner and on the form required by the State board of health, same to be paid by the treasurer of the county in which the registration district is located, upon certification made annually on January 1, to the county treasurer, by the State registrar of vital statistics.

SEC. 7. That any person or persons who shall violate any rule, regulation, or order of the State board of health relative to the recording, reporting, or filing information for the bureau of vital statistics, or who shall willfully neglect or refuse to perform any duties imposed upon them by said orders, or who shall furnish false information for the purpose of making incorrect records for said bureau, shall be fined not less

than \$5 nor more than \$100, or be imprisoned in the county jail not exceeding 60 days, or suffer both fine and imprisonment in the discretion of the court.

SEC. 8. That all laws and acts or parts of acts in conflict with this act are hereby repealed.

SEC. 9. That this act shall take effect and be enforced from and after its passage.

NUISANCES—ABATEMENT OF (AN ACT APPROVED MAR. 14, 1912).

SECTION 1. *Be it enacted by the Legislature of the State of Mississippi*, That section 2495 of the Mississippi Code of 1906 be amended so that when amended shall read as follows, to wit:

The State board of health when informed by county officers or otherwise of the existence of any matter or thing calculated to produce, aggravate, or cause the spread of any epidemic or contagious disease or to affect injuriously the health of the public or community may declare the same a nuisance; and when it does so, it shall notify the district attorney of the district where the nuisance exists, who shall forthwith commence proceedings by information in the circuit or chancery court to have the same abated, and the parties in interest shall have five days' notice of the proceedings, which shall be served as in ordinary suits. Such proceedings may be tried by the judge or chancellor in term time or in vacation time in a summary way, and if the matter be urgent it shall be tried without delay; but the parties in interest shall have a jury if they demand it, which the judge or chancellor shall cause to be summoned, if in vacation time, returnable at some early day, to be fixed by him, and the matter shall be tried as other causes by judge and jury or chancellor and jury; and if the matter be found to be a nuisance, the judge or chancellor shall order the same abated, which shall be executed by the sheriff or other proper officer, and an appeal shall not be allowed therefrom. This section shall not affect the right which municipalities may have to abate a nuisance or common-law and equity proceedings for that purpose.

SEC. 2. That this act shall take effect and be enforced from and after its passage.

APPROPRIATIONS FOR 1912 AND 1913 (AN ACT APPROVED MAR. 14, 1912).

SECTION 1. That the following sums of money, or so much thereof as may be necessary, be, and the same is hereby, appropriated out of any money in the State treasury not otherwise appropriated:

For the establishment of a bureau of vital statistics for the year 1912, \$6,000.

For the eradication of tuberculosis, typhoid fever, malarial fever, pellagra, and other infectious diseases, year 1912, \$10,000.

For the eradication of hookworm diseases and bacteriological work; for the investigation of any disease, year 1912, \$9,000.

For the eradication of tuberculosis, typhoid fever, malarial fever, pellagra, and other infectious diseases, year 1913, \$10,000.

For the eradication of hookworm disease and bacteriological and chemical work; or the investigation of any disease, year 1913, \$9,000.

MISSOURI.

COMMON DRINKING CUPS, ROLLER TOWELS, PUBLIC COMBS AND BRUSHES—USE OF IN TRAINS AND RAILWAY STATIONS PROHIBITED (REGULATION STATE BOARD OF HEALTH ADOPTED JAN. 15, 1912).

Whereas it has been conclusively demonstrated and is a matter of scientific as well as general knowledge that the use of what is usually known as the common drinking cup, the roller towel, and the public comb and brush are dangerous and a menace to the public health, in that through these means communication of infectious diseases results.

Therefore be it ruled by the Missouri State Board of Health that the use of any common drinking cup or other utensil ordinarily used for public drinking purposes in railway stations and trains is prohibited.

It is further ruled that the use of the roller towel in railway stations and trains is prohibited.

It is further ruled that the use of the public comb and brush in railway stations and trains is prohibited.

It is further ruled that no person or corporation in charge of or control of any railway train or railway station shall permit the use of the common drinking cup or other utensil used for that purpose, or the roller towel, or the public comb and brush. Such drinking cup or other utensil used for drinking purposes, or roller towel, or comb and brush shall not be placed in railway stations or coaches; neither shall the same be furnished to the public for common use by persons in control of trains or railway stations or by employees in stations or trains, which employees are serving railroad corporations.

The Missouri State Board of Health recommends that railway officials or those in charge of railway stations and trains conveniently provide for the public individual utensils for drinking purposes, which may be purchased at the price of 1 cent each, such utensils to be placed in either railway stations or trains or both.

Be it further resolved, that the above requirements shall become effective March 1, 1912.

NEW HAMPSHIRE.

COMMON DRINKING CUPS—NOT TO BE FURNISHED IN CERTAIN PUBLIC PLACES
(REGULATION BOARD OF HEALTH ADOPTED FEB. 7, 1912, UNDER AUTHORITY OF
CHAP. 2, LAWS OF 1911).

Whereas it has been repeatedly demonstrated that the use of what is known as the common drinking cup is dangerous and is an undoubted source of communication of infectious diseases;

Now, therefore, in the interests of public health, be it ruled by the State Board of Health of New Hampshire,

That the use of the common drinking cup on railway trains, in railway stations, in public and private schools, and the State educational institutions of New Hampshire is hereby prohibited from and after July 1, 1912.

No person, board, or corporation in charge or control of any railroad train or station, or public, parochial, or private school, or State educational institution shall furnish any drinking cup for public use. And no such person, board, or corporation shall permit on said railroad train or station, or at said public, parochial, or private school, or State educational institution the use of the common drinking cup.

NEW JERSEY.

MOSQUITOES—PREVENTION OF THE BREEDING OF (LAWS OF 1912, CHAP. 104,
APPROVED MAR. 21, 1912).

1. In any county of this State it shall be the duty of the justice of the supreme court presiding over the courts of said county to appoint six persons, three of whom must be persons who are or have been members or employees of boards of health, a board of commissioners to be known as "The ——— County Mosquito Extermination Commission," inserting the name of the county in and for which the commissioners are appointed. The commissioners first appointed under the provisions of this act in any county shall hold office, respectively, for the term of one, two, and three years, as indicated and fixed in the order of appointment, and all such commissioners, after the first appointment, shall be so appointed for the full term of three years; vacancies in the said commission occurring by resignation or otherwise shall be filled by such

justice, and the persons appointed to fill such vacancies shall be appointed for the unexpired term only; such persons so appointed, when duly qualified, constituting such commission, and their successors, are hereby created a body politic, with power to sue and be sued, to use a common seal, and make by-laws; the members of any such commission shall serve without compensation, except that the necessary expenses of each commissioner for actual attendance on meetings of said commission shall be allowed and paid. No persons employed by the said commission shall be a member thereof. Before entering upon the duties of his office each commissioner shall take and subscribe an oath or affirmation before the clerk of the county in and for which he is appointed to faithfully and impartially perform the duties of his office, which oath or affirmation shall be filed with the clerk of the county wherein the commission of which he is a member is appointed; every such commission shall annually choose from among its members a president and treasurer, and appoint a clerk or secretary and such other officers and employees as it may deem necessary to carry out the purposes of this act; it may also determine the duties and compensation of such employees, and make all rules and regulations respecting the same. It shall be the duty of the board of chosen freeholders in each county to provide such commission with a suitable office where its maps, plans, documents, records, and accounts shall be kept, subject to public inspection at such times and under such reasonable regulations as the commission may determine.

2. The director of the State experiment station shall be a member ex officio of each commission and shall cooperate with them for the effective carrying out of their plans and work. The said director shall serve without compensation, except that the necessary expenses actually incurred by him in the attendance on meetings of said commissions shall be allowed and paid. He shall furnish the said commissions with such surveys, maps, information, and advice as they may require for the prosecution of their work, or, as in his opinion, will be of advantage in connection therewith.

3. Every such commission shall have the power to eliminate all breeding places of mosquitoes within the county wherein it is appointed, and to do and perform all acts and to carry out all plans which in their opinion and judgment may be necessary or proper for the elimination of breeding places of mosquitoes, or which will tend to exterminate mosquitoes within said county.

4. Said commission shall, on or before the 1st day of April in each and every year, file with the director of the State experiment station a detailed estimate of the moneys required for the ensuing year, and a plan of the work to be done and the methods to be employed. The said director shall have the power to approve, modify, or alter the said estimates, plans, and methods, and the estimate, plan, and method finally approved by him shall be by him forwarded to the board of chosen freeholders in each county on or before the 1st day of May following its receipt.

5. It shall be the duty of the board of chosen freeholders of each county, or other body having control of the finances thereof, to include the amount of money approved by the director of the State experiment station annually in the tax levy: *Provided, however,* That in no year shall the amount so raised exceed the amount hereinafter specified, to wit, in counties where the assessed valuations are not more than \$25,000,000, a sum not greater than 1 mill on every dollar of assessed valuations; in counties where the assessed valuations are not more than \$50,000,000 a sum not more than one-half of 1 mill on every dollar of assessed valuations; in counties in which the assessed valuations are in excess of \$50,000,000 a sum not more than one-quarter of 1 mill on every dollar of assessed valuations.

6. The moneys so raised, or so much thereof as may be required, shall be paid from time to time to the said mosquito commission on the requisition of said commission, duly signed and approved by the president and secretary thereof.

7. It shall be the duty of each commission annually, on or before the 1st day of November in each year, to submit to the director of the State experiment station

and to the board of chosen freeholders in their respective counties a report setting forth the amount of moneys expended during the previous year, the methods employed, the work accomplished, and any other information which in their judgment may seem pertinent.

8. Nothing in this act shall be construed to alter, amend, modify, or repeal the provisions of chapter 134 of the laws of 1906, or alter, amend, modify, or repeal any act now existing conferring upon State or local boards of health any powers or duties in connection with the extermination of mosquitoes in said State, but shall be construed to be supplementary thereto.

9. This act shall take effect immediately.

WOMEN—LIMITATION OF HOURS OF EMPLOYMENT TO SAFEGUARD HEALTH (LAWS OF 1912, CHAP. 216, APPROVED MAR. 28, 1912).

1. No female shall be employed, allowed, or permitted to work in any manufacturing or mercantile establishment, in any bakery, laundry, or restaurant more than 10 hours in any one day, or more than 6 days, or 60 hours in any one week: *Provided*, That nothing herein contained shall be held to apply to any mercantile establishment for the 6 working days next preceding the 25th day of December in each year: *And provided further*, That nothing herein contained shall apply to canneries engaged in packing a perishable product such as fruits or vegetables.

2. It shall be the duty of the commissioner of labor, the assistant commissioner, or the inspectors, and they shall have power, to investigate and inspect all establishments coming under the intent and provisions of this act.

3. An abstract of this law shall be prepared and furnished by the commissioner of labor to every corporation, firm, or person in this State who is affected thereby, and every such corporation, firm, or person shall post such abstract of this law and keep it posted, in plain view, in such place that it can be easily read by the employees or operatives in going in or coming out from said manufacturing or mercantile establishment, bakery, laundry, or restaurant, and shall also keep a record of the hours of work of each employee in a proper book prepared for that purpose, which book shall be open to the inspection of the department of labor as required.

4. Whoever employs any female or permits any female to be employed in violation of any of the provisions of this act shall be punished for a first offense by a fine of not less than \$25 nor more than \$50, and for a second offense by a fine of not less than \$50 nor more than \$200.

5. All proceedings brought under the provisions of this act shall be by action of debt, in the name of the commissioner of labor, but for the use of the State, to be instituted in any district court of a city, recorders' courts of cities, or before any justice of the peace having due jurisdiction, and the first process shall be by summons, which process shall be served on the owner or owners, person or persons, engaged in or operating the business as aforesaid wherein the alleged violation of the law has taken place if such owner or owners, person or persons, reside in the county where the offense was committed; or if the owner or owners, person or persons, as aforesaid, do not reside in the county where the offense was committed, then said process shall be served on the superintendent, foreman, or person in charge of the business. Service upon a corporation shall be made upon the president, vice president, secretary, or any director, and if none of them reside in the county where the offense was committed, and can not be found therein, then said service may be made upon the superintendent, foreman, or person in charge of the business at least 10 days before the return day thereof. All proceedings thereafter shall be the same as in an action of debt in said court. The finding of the court shall be that the defendant has or has not, as the case may be, incurred the penalty claimed in the demand of the plaintiff, and judgment shall be given accordingly. In case an execution shall issue and be returned unsatisfied, the court, on application, after notice to the defendant, may award an execution to take

the body of the defendant, if an individual, and in case such defendant is committed under such an execution, he shall not be discharged under the insolvent laws of the State, but shall only be discharged by the court making the order for the body execution or one of the justices of the supreme court, when such court or justice shall be satisfied that further confinement will not result in the payment of the judgment and costs. All moneys collected under the provisions of this act shall be paid into the treasury of the State of New Jersey.

6. "Manufacturing establishments" as used in this act means any place where articles for use or consumption are regularly made.

7. "Mercantile establishment" as used in this act means any place where goods, wares, or merchandise are offered for sale.

8. "Bakery" as used in this act shall include all buildings, rooms, or places where biscuits, pies, bread, crackers, cakes, and confectionery are made or manufactured for sale.

9. "Restaurant" as used in this act means any place where refreshments, both food and drink, and where meals are served to the public.

10. "Laundry" as used in this act means any place where laundry work is regularly carried on.

11. In case for any reason any section or provision of this act shall be questioned in any court and shall be held to be unconstitutional or invalid, the same shall not be held to effect any other section or provision of this act.

12. This act shall take effect October 1, 1912.

FOODSTUFFS—PROTECTION OF—REGULATION STATE BOARD OF HEALTH ADOPTED JUNE 25, 1912, UNDER AUTHORITY OF (LAWS OF 1907, CHAP. 217, SEC. 31, AND LAWS OF 1909, CHAP. 231, SEC. 11).

RULE 1. Fruits, vegetables, meats, and other food products shall not be displayed or exposed on the sidewalk or outside of places of business unless such foods are securely covered by cases of glass, wood, or metal, or unless they are inclosed in tight barrels, bags, or boxes: *Provided, however,* That this rule shall not apply to fruits or vegetables which must necessarily be peeled before use, but such foods, when displayed outdoors, must be supported on platforms at least 18 inches above the surface of the sidewalk or ground.

RULE 2. Prepared foodstuffs, such as bakers' goods, confectionery, shelled nuts, etc.; dried fruits, such as dates, figs, peaches, prunes, apricots, etc.; cereal products, such as tapioca, breakfast foods, etc.; pickled products, such as pickles, chili sauce, etc.; fruit products, such as apple butter, jellies, jams, etc.; meat products, such as dried, salted, or smoked fish, veal loaf, pickled pigs' feet, chipped beef, boiled ham, mincemeat, or other foods prepared for eating, or subject to the attacks of worms or flies, shall not be displayed for sale unless protected from flies, dust, and dirt, and all other foreign and injurious contamination by suitable coverings of glass, wood, or metal.

CANNING FACTORIES—REGULATIONS GOVERNING—ADOPTED BY STATE BOARD OF HEALTH APRIL 29, 1912, UNDER AUTHORITY OF (LAWS OF 1907, CHAP. 217, SEC. 31, AND LAWS OF 1909, CHAP. 231, SEC. 11).

1. The manufacture of canned goods, and particularly of pulp, paste, catsup, or soup stock, from wholly or partly unsound materials is prohibited.

2. Materials which are rejected as unsound in any process incident to the preparation of foods for canning will be regarded as decomposed within the meaning of section 3, chapter 217, of the laws of 1907.

3. All tomatoes intended to be used in the manufacture of pulp, paste, catsup, or soup stock shall be thoroughly sorted, and all unsound material removed before the

final washing, and the sound stock, after sorting, shall be thoroughly washed in clean water before pulping.

4. If trimmings and peelings from tomatoes are to be used in the manufacture of pulp, paste, catsup, or soup stock, such tomatoes must be treated in the manner laid down in rule 3. Pulp, paste, catsup, or soup stock when made from trimmings or peelings will be regarded as misbranded unless so labeled.

5. Tomatoes intended to be used for canning purposes may be sorted and the unsound portions, skins, and cores removed after washing and scalding, provided the trimmings are not used in the manufacture of food products.

6. Tomato pulp, paste, catsup, and soup stock will be held to be adulterated under the provisions of section 3, chapter 217, of the laws of 1907, unless they comply with the tentative standards in use by the United States Department of Agriculture, which are as follows:

Moulds, present in not more than 25 per cent of fields at 90 diameters.

Yeasts and spores, not more than 25 per one-sixtieth cubic millimeter.

Bacteria, not more than 25,000,000 per cubic centimeter.

7. In the manufacture of pulp, paste, soup stock, and catsup from tomatoes, adequate facilities and machinery must be provided to handle the product expeditiously and in a cleanly manner.

8. Canned goods manufactured from dried fruits or vegetables which have been subjected to a preliminary soaking will be held to be misbranded, unless the label bears the word "SOAKED," or an equivalent term, in plainly legible letters conspicuously placed. This rule shall not apply to the packing of marrow beans, pea beans, or kidney beans, packed with or without pork or tomato sauce.

9. Tomatoes labeled "Fancy," "Superfine," "Finest Quality," "Extra Choice," or with other expressions of like nature, will be held to be of the quality described as "Fancy" defined below; and will be held to be misbranded if they do not conform to that definition, or to the quality generally described by the trade by that name.

All goods below the quality of "Standard" as defined below, or goods containing undue amounts of skins, cores, unripe tomatoes or other evidences of careless packing or inferior materials, or goods made from overripe tomatoes, or goods having a disagreeable or unusual odor will be classed as "Seconds," and will be held to be misbranded unless the word "Seconds," or some similar expression intelligible to the retail purchaser is plainly and conspicuously printed on the label.

The following method of examination of canned tomatoes has been tentatively adopted by the State board of health and will be used in the examination of the 1912 pack.

The amount of solid matter in canned tomatoes is to be determined by draining the contents of the can on a flat sieve made of No. 18 wire, and having four meshes to the linear inch and an area of not less than 50 square inches, for two minutes. Six cans to constitute a sample and the results obtained by examining each can separately to be averaged.

The six cans referred to in the foregoing paragraph will be collected by inspectors of the board at the canning factories during the present year.

For the purpose of grading canned tomatoes the following definitions have been tentatively adopted and will be used in judging the quality of the 1912 pack, due consideration being given to the seasonal conditions and the methods of packing found at the factories from which the samples are taken.

"*Fancy*."—Made from well-selected, ripe tomatoes, a large proportion of which are whole. No. 3 can. Gross weight, at least 38 ounces; solids, at least 20 ounces.

"*Extra Standard*."—Made from ripe, sound tomatoes. No. 3 can. Gross weight, at least 38 ounces; solids, at least 20 ounces.

"*Standard*."—Made from sound, average ripe tomatoes; not necessarily all red.

No. 2 can: Gross weight, at least 23 ounces; solids, at least 12 ounces.

No. 3 can: Gross weight, at least 37 ounces; solids, at least 19 ounces.

No. 10 can: Gross weight, at least 110 ounces; solids at least 64 ounces.

Canned tomatoes offered for sale in this State after November 1, 1912, will be deemed to be adulterated, if, upon examination, they show the presence of added water or pulp.

10. All canned goods must be solidly packed; that is, all cans must be filled as full of the material being packed as can be done without injuring its quality or appearance; and if the use of water, brine or sirup is necessary, no more of such water, brine or sirup shall be used than is required to fill the spaces between the material being packed when the cans are solidly filled in the manner above described.

This rule shall not apply to the canning of soups.

11. Adequately equipped wash rooms, and places where employees may change their clothing, must be provided for male and female employees. These wash rooms must be separate and apart from any room where manufacturing or storage of food products is carried on; they must be provided with sufficient water, soap, and clean towels.

12. Adequate toilet facilities must be provided for male and female employees. If possible, these toilets should be provided with flush closets and urinals. If running water can not be had in the toilets, well-constructed earth closets are recommended. If open privy vaults are used, they must not be located in close proximity to buildings in which foods are prepared, and they must be thoroughly screened to prevent the entrance and exit of flies. All toilets must be kept clean at all times.

13. Persons operating canning factories must compel their employees to wash their hands before beginning work and after visiting the toilet.

14. Waste materials must not be permitted to accumulate around buildings, but must be removed daily.

15. Rooms in which manufacturing is carried on must be provided with smooth, water-tight floors which can be properly cleansed, and such floors must be cleansed daily.

16. Adequate drainage must be provided to lead all waste liquids outside the building.

17. Employees must be cleanly in their habits and must provide themselves with suitable garments which can be kept clean.

18. No employee with infected wounds in the hands or arms shall be permitted to handle food products or the containers in which they are placed, before such containers are sealed or capped. Clean cuts which are not infected shall be covered with rubber cots securely fastened.

19. The use of barrels or other containers which can not be properly cleaned and sterilized will not be permitted for the storage of pulp, paste or soup stock.

20. An abstract of the rules and regulations of the State board of health shall be posted in a conspicuous place in each room where food is manufactured, handled, or stored. If persons are employed who do not understand the English language, suitable translations of so much of the regulations as affect the operatives shall also be posted in languages with which they are familiar, such translations to be furnished by the State board of health upon application.

21. Swells and other spoiled canned goods may be returned to canners by jobbers and retailers for purposes of inspection only. Under no circumstances will the reprocessing, relabeling or sale of canned goods which show evidences of fermentation or spoilage be permitted.

22. These rules shall take effect July 1, 1912.

BERCULOSIS—COUNTY HOSPITALS FOR TREATMENT OF PERSONS AFFECTED WITH
(LAWS OF 1912, CHAP. 301, APPROVED APR. 1, 1912).

1. Whenever the board of chosen freeholders of any county in this State shall have resolved to establish a hospital for the care and treatment of persons suffering with tubercular diseases, under the authority of any law of this State, it shall be lawful for such body to acquire, in the name of such county, lands and buildings, the property of any municipality of this State, used for like purposes, located within such county, by agreement with the governing body of such municipality, or by condemnation, in the manner prescribed by an act entitled "An act to regulate the ascertainment and payment of compensation for property condemned or taken for public use (Revision of 1900)," approved March 20, 1900, and the supplements and amendments thereto.

2. This act shall take effect immediately.

PUBLIC WATER SUPPLIES—PROTECTION OF (LAWS OF 1912, CHAP. 317, APPROVED
APR. 1, 1912).

1. Whenever any person or corporation furnishing water for potable purposes finds it necessary, for any reason whatever, to make any change, temporary or permanent, in the operation of their plant or in the manner of furnishing such water, which may in any way, either temporarily or permanently, tend to deteriorate the potable quality of the water so furnished, by pumping directly into reservoirs or supply mains untreated water when the ordinary supply is subjected usually to some form of purification treatment or by any other similar or dissimilar change in said supply the tendency of which is to cause polluted waters to be forced into distributing pipes, the said person or corporation, before making such change, or, in case of emergency, requiring the immediate making of changes in the operation of the plant or in the manner of furnishing such water, within six hours after making such change shall notify the local board of health and shall also notify, by telegraph or telephone, the State board of health as to the character and estimated duration of such change.

2. Every person or corporation violating any of the provisions of this act, either by corporate action or the unauthorized act of an employee, shall be subject to a penalty of \$100, to be recovered in an action of debt by the local board of health, or, if there is no local board of health, then at the suit of the State board of health.

3. Nothing herein contained shall operate to relieve such person or corporation from any suit or action on behalf of any person aggrieved by the action of such person or corporation in making any such change as is referred to in paragraph 1 of this act.

4. All acts and parts of acts inconsistent herewith are hereby repealed, and this act shall take effect immediately.

INDUSTRIAL AND OCCUPATIONAL DISEASES—REPORTING OF CASES OF (LAWS OF
1912, CHAP. 351, APPROVED APR. 1, 1912).

1. Every physician attending upon or called in to visit a person whom he believes to be suffering from poisoning from lead, phosphorus, arsenic, or mercury, or their compounds, or from anthrax, or from compressed-air illness, contracted as a result of such person's occupation or employment, shall within 30 days after his first professional attendance upon such person send to the State board of health a written notice, stating the name and full post-office address and place of employment of such person, and the nature of the occupation, and the disease or ailment from which, in the opinion of such physician, the person is suffering, with such other specific information as may be required by the State board of health.

2. Any physician who shall fail to perform the duty imposed by section 1 of this act, within the time therein limited, shall be liable to a penalty of \$25 for each offense. Any penalty incurred under the provisions of this act shall be sued for and recovered

in an action of debt by and in the name of the Board of Health of the State of New Jersey. All penalties collected under this act shall be paid by said board into the treasury of the State of New Jersey.

3. It shall be the duty of the board of health of this State to enforce the provisions of this act, and it may call upon the local boards of health and health officers of such local boards of health for assistance. It shall be the duty of all local boards of health and all health officers, when so called upon for such assistance, to render the same. It shall be the duty of the said board of health of this State to transmit any data received under the provisions of section 1 of this act to the commissioner of labor of this State.

APPROPRIATIONS FOR STATE BOARD OF HEALTH—YEAR ENDING OCTOBER 31, 1913
(LAWS OF 1912, CHAP. 376, APPROVED APR. 3, 1912).

For salaries of members of the State board of health, pursuant to chapter 299, laws of 1908, \$7,500.

For the State board of health, pursuant to the provisions of chapter 68, laws of 1887, and the amendments and supplements thereto, \$23,325.

For compensation to the secretary of said board, pursuant to said chapter, \$2,500.

For expenses to be incurred pursuant to chapter 225, laws of 1886, \$2,000.

For blanks and stationery for use in the office of State board of health, \$2,500.

For maintenance of the bacteriological laboratory, \$8,200.

For postage required in sending to the physicians of this State the annual report of the State board of health and of the bureau of vital statistics, \$700.

For the purpose of carrying into effect the provisions of "An act to secure the purity of foods, beverages, confectionery, condiments, drugs, and medicines, and to prevent deception in the distribution and sales thereof," passed at the legislative session of 1907, and amendments and supplements, and "An act to prevent deception in the sale of oleomargarine, butterine, or any imitation of dairy products, and to preserve the public health," pursuant to chapter 84 of the laws of 1886, and amendments and supplements, \$23,700.

For the purpose of carrying into effect the provisions of chapter 139, laws of 1906, \$12,000.

For the purpose of carrying into effect the provisions of chapter 72, laws of 1900, and the amendments and supplements thereto, \$27,000.

For the purpose of carrying into effect the provisions of chapter 12 of the laws of 1910, \$10,000.

For the purpose of carrying into effect the provisions of chapter 189 of the laws of 1911, \$3,500.

For the purpose of carrying into effect the provisions of chapter 24 of the laws of 1912, \$2,500.

PREVENTABLE DISEASES—REPORTING OF CASES OF (LAWS OF 1911, CHAP. 381,
APPROVED JULY 6, 1911).

1. Section 1 of the act to which this act is amendatory be, and the same hereby is, amended so that it shall read as follows:

1. Every physician shall, within 12 hours after his first professional attendance upon any person who is suffering from cholera, yellow fever, typhus fever, leprosy, plague, trichinosis, smallpox, varioloid, enteric or typhoid fever, diphtheria, membranous croup, scarlet fever, malaria, tuberculosis in any of its manifestations, trachoma, hydrophobia, glanders, anthrax, chicken pox, anterior poliomyelitis or infantile paralysis, or any other contagious or communicable disease which may hereafter be publicly declared by the State board of health to be preventable and specially dangerous to the public health, report such sickness to the assessor of the township in

which such sickness may be; if such sickness be within the limits of the jurisdiction of any local board of health other than the local board of health of any township, then such physician shall report such sickness to the secretary of the local board of health having jurisdiction over the territory within which such sickness may be, if such board has a secretary; if such board has no secretary, then to the clerk of such board: *Provided, however,* That any local board of health may designate some officer of such board, other than the clerk, secretary, or township assessor, to receive such reports, in which case all such reports shall be made to such officer; such reports shall be in writing, signed by such physician, and shall set forth the name, age, and precise location of the person suffering from such disease; and every house owner or householder who has reason to believe that any person living, dwelling, or being in any building under his control is affected by any of the contagious, infectious, or communicable diseases hereinabove specified or referred to shall, when no physician has professionally attended such sick person, within 12 hours after discovering the same, report the fact in writing to the same person and in the same manner as any physician attending such sick person would be required to do as hereinabove set forth; and on the 30th day of June and the 31st day of December in each and every year every physician, house owner, and householder making any report or reports as in this section required, shall be entitled to receive from the officer to whom such report or reports shall have been made during the preceding six months a certificate in writing under the hand of such officer, setting forth the number of names of persons reported to have been affected with any of the diseases hereinabove specifically named or referred to, which certificate when presented by such physician, house owner, or householder to the proper disbursing officer of the city, borough, town, or other local municipal government or township with which such affected person may have been shall entitle such physician, house owner, or householder to receive from such disbursing officer the sum of 10 cents for each and every name by such certificate certified to have been reported, unless such notification shall be found to have been erroneous, and any physician, house owner, or householder who shall fail to perform the above-mentioned duty at the time and in the manner above provided shall be liable to a penalty of \$50 for each such failure.

2. Section 2 of the act of which this act is amendatory be, and the same hereby is, amended so that it shall read as follows:

2. The facts contained in every report filed pursuant to the provisions of the first section of this act shall be entered by the officer to whom the same shall be delivered in a book kept exclusively for that purpose, which book shall be subject to the inspection of the local board of health and its proper officers and to the State board of health and its officers only; the officer to whom such report shall be delivered, and whose duty it is to make record of the same, as in this section above set forth, shall also, at least once in each week, and daily when required by the State board of health, transmit the facts stated therein by mail to the secretary of the board of health of the State of New Jersey, at Trenton, and shall upon request by the said State board of health or any of its officers give full information concerning the measures which are employed by the local board of health to prevent the spread of the diseases in such reports mentioned, which facts and information shall be conveyed to the secretary of the said State board of health in writing; any officer whose duty it is to make any report to said State board of health or the secretary thereof, as in this section above provided, and who fails to perform such duty at the time and in the manner above provided, shall be liable to a penalty of \$50 for each and every such failure of duty. Proof that the secretary of said State board of health has not received the report of such facts or such information from any such officer shall be prima facie evidence that such facts and information have not been transmitted to said secretary by such officer. Every officer whose duty it is to receive the reports mentioned

in section 1 of this act shall, during the month of October in each year, upon presentation of a certificate signed by the secretary of the State board of health stating the whole number of such cases reported as aforesaid from each municipality or township by such officer to the State board of health during the preceding year, be entitled to receive from the proper disbursing officer of the township, city, borough, town, or other local municipal government within the limits of which the sickness so reported occurred, the sum of 10 cents for each case reported, as aforesaid, to the secretary of the State board of health: *Provided, however,* That such officer shall not be entitled to any payment for or on account of any such case unless report of such case was received by the secretary of the said State board of health within 10 days after the date of such said case was reported to the officer transmitting the same, and no such case shall be included in such certificate unless so received. Such certificates shall be sent to the officers above mentioned during the month of October of each year.

3. This act shall take effect immediately.

MUNICIPAL ORDINANCES, RULES, AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

BELLEVUE, OHIO.

MILK—PRODUCTION, CARE, AND SALE. (REGULATION, BOARD OF HEALTH, ADOPTED MAR. 21, 1912.)

SEC. 1. *Permits.*—No one shall engage in the sale of milk or cream in the city of Bellevue, Ohio, ship same into the city for sale, or supply to others for use in the city, unless he shall first obtain a permit from the board of health so to do.

A fee of \$1 will be charged for each permit, except where milk is sold by private family keeping only one cow, in which case the fee will be 25 cents, and the same shall be credited to the sanitary fund. Permits shall be renewed annually in January. Permits issued after July 1 shall be charged at the rate of 50 cents for each permit, where the fee is \$1 per year, for use only during the second half of the year. On or before the 1st day of January permits will be issued by the board of health for the ensuing year to all applicants who comply with the provisions of these rules and regulations regulating the sale of milk or cream in the city of Bellevue, but before the issuance of any permit every vender or shipper of milk or cream shall make application therefor upon a printed form, provided by the board for that purpose, on which shall be stated:

1. The name, residence, post-office address, and location of the business place or places of the applicant.
2. The number of cows from which milk is obtained for sale, and the kind of food which the cows are given.
3. If the applicant buys part or all of his milk supply, the names and addresses of all persons from whom he obtains milk or cream.
4. If the applicant be a shipper of milk or cream into the city, he shall, in addition to the above, state the route of his shipments.

SEC. 2. *Inspection for permits.*—The board will not issue any permit unless it is satisfied, after inspection, with the cleanly and sanitary condition of the stables, cows, wagons, store, or place of business of the applicant therefor, and with all the utensils used by him from which his milk or cream is obtained; and that the food given the cows is pure and wholesome; and that all persons engaged in the care and handling of the milk are free from any contagious diseases, and that said persons use due cleanliness in their work.

SEC. 3. *Applications for permits.*—All applications for permits shall be signed by the applicant, and when received by the clerk of the board of health shall be placed on file and the name of such applicant shall be entered in a book of registration kept for such purpose. As soon as possible after an application is received at the health office for a permit to sell milk, the health officer shall visit the dairy or place of business of such applicant and make such observation and gather such information as will enable the board to properly consider such application. Should the applicant live at such distance from the city of Bellevue as to make it impracticable for the health officer to visit such dairy premises, such applicant shall furnish evidence, satisfactory to the board, of the sanitary condition of his dairy before he will be given a permit to ship milk or cream to the city.

SEC. 4. *Revoking permits.*—If, after issuing a permit to sell milk or cream, the board of health shall become satisfied that the provisions of this subdivision of the sanitary code are being violated, it will at once revoke the permit issued to such person or persons, and no new permit will be issued until all insanitary conditions have been rectified and all other provisions of this subdivision of the sanitary code are complied with.

SEC. 5. Anyone doing business under a permit from board of health who shall change the location of such business without notifying the health office of such change shall have such permit revoked without further notice.

SEC. 6. *Milk tickets.*—If dairymen or other persons offering milk for sale use tickets, as representatives of value, these tickets must be in coupon form and must be destroyed after once using.

SEC. 7. *The stable and surroundings.*—The surroundings to the stable must be kept in a sanitary condition. Cows must not be allowed to stand in manure and filth.

SEC. 8. All parts of stable except floors and windows must be painted in some light color or whitewashed at least twice a year. Stables must be kept free from dirt, dust, cobwebs, and odor. Manure and urine must be removed from stable at least twice daily, and if not taken to field daily must be moved at least 30 feet from stable and placed where cows can not get into it. Manure must not be thrown out through stable windows. If horses are kept in same stable, a tight partition should separate them from cattle. No other animals or fowls will be allowed in cow stable. Floors must not be laid less than 1 foot higher than outside surface level, so that good drainage can be procured; floors must be constructed of asphalt, concrete, or brick, with surface flushed with cement, or of wood, water tight. They must be kept in good repair at all times, and also constructed with a gutter not less than 12 inches wide and 6 inches deep, a 4-foot walk back of cows, and not less than a 20-inch manger in front. (Front half of cow stall may be made of clay.)

Ceiling must be dust tight and kept free from cobwebs.

Light: At least 3 square feet of unobstructed window glass must be provided per cow and equally distributed; at least 500 cubic feet of space must be provided for per cow; windows must be left partially open if no other method of ventilation is provided for. Stable yard must be well drained and kept clean.

SEC. 9. Cows must be kept clean; manure litter, etc., must not be allowed to become caked and dried on them. They must not be allowed to stand in nor wade through filth and manure. The bedding must be kept sweet and clean at all times and of sufficient quantity to protect the animals from lying in filth.

SEC. 10. *Feed and water.*—Cows must be fed on clean, dry feed, neither decayed, moldy, dusty, distillery waste nor starch waste. If malt is fed it must not be fed when sour.

Pure running spring water or ordinary well or cistern water, free from contamination, pumped in clean tanks, must be provided.

SEC. 11. *Milkers.*—The milkers must thoroughly wash and wipe their hands and wipe with damp cloth the cows' udders before they begin milking. They must not use pails, cans, strainers, etc., unless they have been thoroughly washed in hot water and soap, or hot water and soda and afterwards sterilized with boiling water or steam. Care must be taken that the seams of the vessels are thoroughly cleaned with a brush. They must refrain from milking or handling milk in any way when in themselves or their families there is even a suspicion of any contagious or infectious disease, such as smallpox, scarlet fever, diphtheria, tuberculosis, or the like.

SEC. 12. *Handling the milk.*—Immediately after milking, the milk shall be removed from the stable into a milk room screened from flies and other insects, aerated and cooled to at least 50° temperature, and put into perfectly clean bottles or cans. Dairymen who use both bottles and cans in delivering milk shall not fill bottles nor expose the contents of any can, nor refill any can, while on their delivery route.

SEC. 13. The milk house or milk room must be located and constructed to the satisfaction of the board of health. It must be kept clean at all times and free from any odor.

SEC. 14. *Care of cans or bottles.*—(a) All cans or bottles used in the distribution of milk must be thoroughly cleaned, either by hot water and soap or hot water and soda, or other alkalies, rinsed and sterilized by boiling water or steam before they are again used as receptacles for milk. Extreme care must be exercised in cleaning the faucets to cans by use of a brush.

(b) Milk cans must be washed and cleansed immediately after the milk or cream is emptied therefrom, and in no case shall the washing be later than 24 hours after the receipt of the can.

(c) No person shall use a milk bottle for other than milk purposes.

SEC. 15. *Quality of milk.*—No person shall bring into the city for sale, or shall sell or offer for sale any milk:

- (a) Containing more than "88 per cent" of water or fluids.
- (b) Containing less than "12 per cent" of milk solids.
- (c) Containing less than "3 per cent" of milk fats.
- (d) From which any part of the cream has been removed.
- (e) Having a specific gravity of less than one and twenty-nine thousandths (1.029).
- (f) Containing any dirt, foreign matter, or sediment.
- (g) Containing any boracic or salicylic acid, formaldehyde, or other foreign chemicals.
- (h) Containing any pathogenic bacteria.
- (i) Containing bacteria of any kind more than 500,000 per cubic centimeter.
- (j) Drawn from any cow having a communicable disease or showing clinical symptoms of tuberculosis, or from a herd which contains any diseased cattle, or are afflicted with or have been exposed to any communicable disease.
- (k) Drawn from any cow within 15 days before or 12 days after parturition.
- (l) Drawn from any cow which has been fed on garbage, refuse, swill, moist distillery waste, or other improper food.
- (m) Having a temperature, or which has been kept at a temperature, higher than 50° F.
- (n) Which has existed or has been kept under conditions contrary to the provisions of this code.
- (o) No milk shall be kept, sold, or offered for sale drawn from cows suffering with sore and inflamed udders and teats, or from cows diseased.

Provided that the subdivisions a, b, c, and d of this section shall not apply to milk sold under the name of "skimmed milk."

SEC. 16. *Retailers.*—All persons having or offering for sale milk or cream shall at all times keep the names and addresses of the dairymen from whom the milk on sale was obtained posted up in a conspicuous place wherever such milk may be sold or offered for sale. If skimmed milk is kept or offered for sale, each and every container of such milk shall be plainly marked with the words "Skimmed milk," in letters not less than 1 inch in height.

SEC. 17. *Skimmed milk.*—(a) No person shall bring into the city for sale or sell or offer for sale milk from which the cream has been removed, either in part or in whole, unless on two sides of the container from which such milk is sold there appears in red letters not less than 1 inch in height the words "Skimmed milk."

(b) No person shall bring into the city for sale or sell or offer for sale any so-called skimmed milk containing less than $9\frac{1}{8}$ per cent of milk solids.

SEC. 18. *Storage.*—(a) No person shall ship or store any milk in any basement, cellar, refrigerator, milk house, dairy, or other place unless such place is in a thoroughly sanitary condition as regards light and ventilation and free from odors. Windows and doors shall be provided from May 1 to October 1, inclusive, with sound screens of mesh sufficiently fine to keep out flies and other insects.

(b) No person shall store any milk in any basement, cellar, refrigerator, milk house, dairy, or other place which is within 15 feet of any water-closet or privy vault or cesspool or any horse or cow stable or any chicken or poultry yard or coop.

SEC. 19. *Milk-delivery wagons.*—(a) No one shall use any vehicle for the delivery of milk in the city of Bellevue which has not painted thereon in legible roman letters not less than 3 inches in height, and on both sides of the vehicle in a conspicuous place, the name and location of his dairy and the number of his permit, and if such vender sells skimmed milk, each and every container of skimmed milk shall have the words "Skimmed milk" thereon in plain letters not less than 1 inch in height.

(b) Every person using in the sale or distribution of milk a delivery wagon or other vehicle shall keep the same at all times in a cleanly condition and free from any substance liable to contaminate or injure the purity of the milk, and from May 1 to October 1 shall have and keep over such delivery wagon or other vehicle a covering of canvas or other material so arranged as to thoroughly protect the contents thereof from the rays and heat of the sun.

SEC. 20. *Sealed container; wholesale delivery.*—No person or dealer shall sell, offer for sale, or deliver any milk, buttermilk, whey, sour milk, skimmed milk, cream, Dutch cheese, or other milk product in quantities exceeding 1 gallon, unless the can or receptacle containing the same is securely sealed by lock and chain, wire, or other contrivance equally efficient: *Provided, however,* That the persons or dealer engaged exclusively in the wholesale delivery or sale of milk, buttermilk, whey, sour milk, cream, skimmed milk, Dutch cheese or other milk products from wagons not carrying milk for retail customers, may deliver the same from unsealed cans or receptacles: *And provided further,* That said wagon or wagons shall have inscribed conspicuously thereon in plain letters, not less than 3 inches in height, the words "Wholesale delivery."

SEC. 21. *Original container.*—No person or milk dealer shall sell, deliver, sell or offer to sell, or keep for sale in stores milk or cream in quantities less than 1 gallon, unless delivered and kept in the original package or container. (Exception: Original packages of not greater capacity than 1 quart may be broken for sale if the unsold portion is kept in the original package, properly closed.) The compartment where milk or cream is kept shall be separated by an impervious water and odor proof partition from all other compartments of any ice box or refrigerator. Neither milk nor cream shall be kept in the same compartment with any other foodstuffs, except butter and cheese.

SEC. 22. *Milk plants.*—(a) *Construction:* Floors must be made of asphalt, cement, or other smooth vitrified substance, laid so as to allow ready drainage; walls and ceiling shall be smooth, tight, and kept painted in some light color; window space shall be equivalent to 10 per cent floor space.

(b) *Equipment:* Must be arranged and constructed so it can be easily and efficiently cleaned. All piping used to convey milk must be of the sanitary taken down form. Windows and doors from May 1 to October 1 must be provided with sound screens of mesh sufficiently fine to keep out flies and other insects. Building and equipment must be kept clean at all times and free from odors.

SEC. 23. *Contagious diseases.*—(a) Should scarlet fever, smallpox, diphtheria, typhoid fever, tuberculosis, or other dangerous or infectious disease occur in the family of any dairyman or among any of his employees, or in any house in which milk is kept for sale, or in the family or among the employees of any person who ships milk into the city for sale, such dairyman, such vendors or shippers of milk shall immediately notify the health officer of the facts of the case, and the health officer shall at once investigate and order the sale of such milk stopped or sold under such regulations as he thinks proper.

(b) Should dairymen, vendors, or shippers of milk fail to notify the health officer when contagious diseases exist in their families or in the families of their employees,

or who, after such information is given the health officer, fail to obey his directions, the health officer shall seize and destroy all milk sent into the city by such persons, and he shall, when acting in good faith, be held harmless in damages therefor in any suit or demands made.

(c) In delivering milk to families in which there exists any of the above-named contagious or infectious diseases the dairyman shall not enter, neither shall he permit any of his milk bottles or vessels to be taken, into such houses, but shall pour such milk as each family wishes into vessels furnished by such family.

SEC. 24. Milk inspectors.—The milk or dairy inspector, the health officer or any person authorized by the board of health, may examine all dairy herds, utensils for handling milk, of all dairymen or other persons engaged in selling or shipping for sale milk or cream to the city of Bellevue. These inspectors shall have power to open any can, vessel, or package containing milk or cream, whether sealed (locked) or otherwise, or whether in transit or otherwise, and take samples of the milk or cream for testing or analysis; and if, upon inspection, the milk or cream is found to be filthy, or the cans or other containers are in an unclean condition, the said inspector may then and there condemn the milk or cream as deemed by him to be filthy and pour the contents of such bottles, vessels, or packages upon the ground forthwith, and he shall, if done in good faith, be held harmless in damages therefor, in any suit or demand made.

SEC. 1. Cream.—No person shall bring into the city for sale or shall sell or offer for sale any cream unless such cream is produced from milk which must conform to all the rules and regulations of this code, relating to milk, nor unless such cream be kept at or below 50° F., free from foreign substances, and shall not contain more than 1,000,000 bacteria per cubic centimeter, and shall not contain less than 16 per cent of milk fat.

CHICAGO.

MILK—PRODUCTION, CARE, AND SALE (ORDINANCE ADOPTED AUG. 14, 1912).

SEC. 1. That sections 1273 and 1274 of the Chicago Code of 1911 be, and are hereby, repealed and that the following ordinance be substituted therefor:

"1273. All milk sold or kept for sale to be pasteurized, unless inspected, and the temperature of said milk during storage and transportation regulated. It shall be unlawful for any person, firm, or corporation to transport into the city of Chicago, or to transport or deliver from point to point within the city, milk, cream, skim milk, or buttermilk for human consumption which is of a higher temperature than 60° F., provided that after June 1, 1914, it shall be unlawful for any person, firm, or corporation to transport into the city of Chicago, or to transport from point to point within the city, or to deliver any milk, cream, skim milk, or buttermilk for human consumption which is of a temperature higher than 55° F.

All milk, cream, skim milk, or buttermilk sold, offered for sale, exposed for sale, or kept with the intention of selling, or used in the manufacture of ice cream, within the city of Chicago, shall be pasteurized in a manner as hereinafter provided, unless such milk, cream, skim milk, or buttermilk is of the kind or grade hereinafter defined as "inspected."

A. Inspected milk.—"Inspected" milk, cream, skim milk or buttermilk shall be produced in dairies that have been inspected and approved by the commissioner of health.

Any person, firm, or corporation, producing and selling, or producing and offering for sale or for delivery in the city of Chicago, or any person, firm, or corporation engaged in the bottling or receiving and handling in bulk of such milk, cream, skim milk, or buttermilk shall make a written application to the commissioner of health, stating the name and residence of the applicant and the location and description of the premises where such milk is to be produced, bottled, or handled.

The commissioner of health shall thereupon make, or cause to be made, an inspection of the premises, cows, and the milk produced, and the manner of handling the milk,

cream, skim milk, or buttermilk, and if the same are found to comply with the requirements as hereinafter set forth, he shall issue a permit allowing the milk, cream, skim milk, or buttermilk produced or handled on said premises to be brought into or sold in the city of Chicago, conditioned that the person, firm, or corporation given such permit will report at once any and all sickness occurring in himself or any or all persons residing or employed upon such premises, and will not ship into, deliver, sell or offer for sale in the city of Chicago or bring or deliver to any creamery or bottling plant supplying the city of Chicago, the milk, cream, skim milk, or buttermilk produced on said premises, whenever a case of contagious or infectious disease is known or suspected of having occurred in himself or any or all persons residing or employed upon said dairy farm, or in the families of any person or persons so employed or in any dwelling in which said person or persons shall be domiciled.

Every such permit to produce inspected milk shall expire on the 30th day of June following the date of issue, and every such permit to bottle or handle in bulk inspected milk shall expire on the 31st day of December following its issue.

The commissioner of health, when it shall appear to his satisfaction that the provisions of this article have not been complied with, may at any time revoke such a permit by giving notice in writing.

"Inspected" milk, cream, skim milk, or buttermilk shall be produced and handled in accordance with the following regulations:

(a) It shall be produced on farms scoring not less than 65 on the following score card; provided, however, that after January 1, 1915, farms on which inspected milk is produced shall score not less than 70 on this same score card:

Score card.

Equipment.	Score.	
	Perf.	Al'w'd.
Cows:		
Condition.....	4	
Health (outward appearance).....	6	
Comfort (bedding, 2; temperature of stable, 1; protected yard, 1).....	4	
Cubic feet of space per cow (over 300, 2; over 400, 4; 500 to 1,000, 6).....	6	
Feed.....	4	
Water (clean, 6; fresh, 2).....	8	
Stable:		
Location (well drained, 3; free from contaminating surroundings, 3).....	6	
Construction (tight, sound floor, 3; gutter, 1; stall, stanchion tie, 1; low-down manger, 1; smooth, tight walls, 1; smooth, tight ceiling, 2; box stall, 1).....	10	
Light (1 square foot glass per cow, 2; 2 square feet, 4; 3 square feet, 6; 4 square feet, 8; even distribution, 2).....	10	
Ventilation (sliding windows, 2; hinged at bottom, 4; King system or muslin curtain, 8).....	8	
Stable yard (drainage).....	2	
Milk room:		
Location (convenience, 2; free from contaminating surroundings, 4).....	6	
Construction.....	4	
Construction (floor, 1.5; walls and ceiling, 1; light, 0.5; ventilation, 0.5; screens, 0.5).....	4	
Arrangement.....	2	
Equipment (hot water or steam, 2; cooler, 2; narrow-top milk pail, 1; other utensils, 1).....	6	
Water supply for utensils (clean, 6; convenient, 2; abundant, 2).....	10	
Milking suits.....	4	
Total.....	100	
METHODS.		
Cows:		
Cleanliness.....	10	
Stable:		
Cleanliness (floor, 4; walls, 2; ceiling, 2; ledges, 1; mangers and partitions, 1; windows, 1; no other animals in stable, 1).....	12	
Stable air.....	4	
Removal of manure (to field or proper pit, 4; 30 feet from stable, 2).....	4	
Cleanliness of stable yard.....	2	

Score card—Continued.

Equipment.	Score.	
	Perf.	Al'w'd.
METHODS—continued.		
Milk room:		
Cleanliness.....	6	
Care and cleanliness of utensils (inverted in pure air, 2; clean (superficially), 4; sterilized, 4).....	10	
Milking:		
Cleanliness (clean, dry hands, 4; udders washed and dried, 10; cleaned with moist cloth, 8; cleaned with dry cloth, 4).....	14	
Care of milk:		
Cooling (removed from stable immediately after milking each cow and promptly cooled, 10; cooled to 50° F. or below, 10; 51° to 55° F., 8; 56° to 60° F., 6).....	20	
Storing (below 50° F., 8; 51° to 55° F., 6; 56° to 60° F., 4).....	8	
Transportation (iced in summer, 10; jacket or wet blanket in summer, 8; dry blanket, 4; covered wagon, 2).....	10	
Total	100	

Score of equipment, $\times 1 =$ ———.Methods, $\times 2 =$ ———.Total $\div 3 =$ ———, final score.

(b) It shall be obtained from cows which have been certified by veterinarians authorized by the commissioner of health or by veterinarians appointed by the State or United States Government to be free from tuberculosis and other diseases not more than six months prior to the date that such milk is brought into the city: *Provided*, *however*, That time shall be given until June 30, 1913, for the filing of such certificates.

Animals known to be affected with tuberculosis or other infectious diseases shall not be kept in herds used for the production of inspected milk.

The cows yielding same must be kept clean. Long hair must be clipped from the flanks, udder, and from the tail sufficiently to clear the ground. The cows shall not be fed on slops, refuse of any distillery or brewery, glucose, or any malt in a state of fermentation, putrefaction, or decomposition, or any other putrefying or unwholesome foodstuffs. Milk from cows 15 days before and 1 week after calving shall not be mixed with inspected milk.

(c) The milking must be done by milkers who are clean as to both clothing and person, or by mechanical milkers operated by persons as above specified. When open milk pails are used they shall have an opening at the top not more than 7 inches in diameter.

(d) All utensils, mechanical milkers, or other devices used in the production and handling of inspected milk must be properly cleaned and sterilized each time before using, and shall be so constructed that all parts are absolutely free from places where milk can accumulate or soak in so that it can not be removed by simple washing, and the surface coming in contact with the milk or cream must be smooth and free from excessive rust.

(e) All persons living upon farms where such milk is produced, or employed thereon, shall be free from contagious or infectious diseases, and resident or domiciled in places free from such diseases, and shall not be exposed to or come in contact with any person suffering with or having a contagious disease: *Provided*, That no person shall be employed or permitted to work on such farm unless and until it shall have been demonstrated to the satisfaction of the commissioner of health of the city of Chicago that said person is not a typhoid or diphtheria carrier.

It shall be the duty of every person, firm, or corporation producing inspected milk to notify the commissioner of health at once, by mail, of the occurrence of any sickness in any person or persons living or employed on their farms where such milk is produced. Milk, cream, skim milk, or buttermilk produced on any farm or bottled

or handled in bulk where a case of contagious or infectious disease has occurred or is suspected to have occurred shall not be shipped into or delivered, sold, or offered for sale in the city of Chicago or brought or delivered to any creamery or bottling plant supplying the city of Chicago until the commissioner of health shall have been notified and shall have made an investigation and released such milk, cream, skim milk, or buttermilk for delivery in the city of Chicago.

(f) The milk from each cow shall be removed from the stable immediately after it is obtained, and shall then be strained and cooled at once to 60° F. or below. It shall then be kept at a temperature of 60° F. or below until delivered to the consumer, provided that after June 1, 1914, the temperature to which the milk must be cooled and at or below which it must be kept shall be 55° F.

(g) Inspected milk, cream, skim milk, or buttermilk exposed for sale, offered for sale, or sold to the consumer shall be contained in tightly closed and capped bottles, or receptacles of a similar character.

(h) All milk, cream, skim milk, or buttermilk produced and handled in the manner required in article A of this section shall be labeled "Inspected milk," "Inspected cream," "Inspected skim milk," or "Inspected buttermilk," as the case may be, in letters not less than three-sixteenths of an inch high on the cap or cover of every package when contained in bottles or receptacles of a similar character, and not less than five-eighths of an inch high on a tag attached to each container when contained in cans. The serial number corresponding with the number of the permit given by the commissioner of health to the person, firm, or corporation producing such inspected milk, cream, skim milk, or buttermilk shall be plainly indicated in figures not less than five-eighths of an inch on every case, can, or receptacle of a similar character in which such milk, cream, skim milk, or buttermilk is sent or brought into the city of Chicago.

The cap or stopper of the bottles or receptacles of a similar character in which said inspected milk, cream, skim milk, or buttermilk shall be contained shall be plainly marked with the name of the day of the week upon which the said milk, cream, skim milk, or buttermilk was first inclosed in bottles or receptacles of a similar character: *Provided*, That it shall be unlawful for any person, firm, or corporation to mark, cause to be marked, or permit to be marked upon any bottle or receptacle of similar character containing inspected milk, cream, skim milk, or buttermilk the name of any other day than that upon which the contents was first inclosed in bottles or containers of similar character.

(i) All inspected milk, cream, skim milk, or buttermilk sold, offered for sale, or kept with the intention of selling, or brought into the city of Chicago shall not yield more than a perceptible amount of sediment or stain other than that of natural butter fat, when a pint sample of the same is filtered through a pledget of cotton 1 inch in diameter, and shall be entirely free from disease-producing bacteria and blood, pus, or other matter or things dangerous and detrimental to health.

Inspected milk and inspected skim milk shall not contain more than 100,000 bacteria per cubic centimeter from October 1 to May 1, inclusive, and not more than 150,000 bacteria from May 2 to September 30, inclusive. Inspected cream shall not contain more than 150,000 bacteria per cubic centimeter from October 1 to May 1, inclusive, and not more than 300,000 bacteria from May 2 to September 30, inclusive.

In the determination of the number of bacteria the culture media used shall be 1 per cent agar agar having a reaction of plus 1.5 on Fullers's scale.

The quantity of culture media used shall be 10 cubic centimeters per plate. The Petri dishes shall be 100 millimeters in diameter.

The plate cultures shall be incubated at a temperature of 37° C., for a period of two days.

The Petri dishes selected for counting shall be those containing not less than 20 nor more than 200 colonies per plate.

B. *Pasteurized milk*.—All milk, cream, skim milk, or buttermilk not complying with the requirements set forth for inspected milk in article A of this section shall be produced, handled, and pasteurized in accordance with the following regulations:

(a) The said milk, cream, skim milk, or buttermilk shall be produced on farms scoring not less than 55 on the score card as described in paragraph (a) in article A of this section.

(b) It shall be obtained from cows which, upon physical examination, are found to be free from disease. The cows shall be kept clean and shall not be fed on slops, refuse of any distillery or brewery, glucose, or any malt in a state of fermentation, putrefaction, or decomposition, or any other putrefying or unwholesome foodstuffs. Milk from cows 15 days before and 1 week after calving shall not be mixed with pasteurized milk.

(c) The milking must be done in a cleanly manner. When open milk pails are used they shall have an opening at the top not more than 7 inches in diameter.

(d) All utensils used in the production and handling of pasteurized milk must be properly cleaned and sterilized each time before using, and shall be so constructed that all parts are absolutely free from places where milk can accumulate or soak in, so that it can not be removed by simple washing, and the surface coming in contact with the milk or cream must be smooth and free from excessive rust.

(e) All persons living upon farms where such milk is produced, or employed thereon, shall be free from contagious or infectious diseases, and resident or domiciled in places free from such diseases, provided that no person shall be employed or permitted to work who is known to be a "carrier" of an infectious or contagious disease.

(f) The milk from each cow shall be removed from the stable immediately after it is obtained, and shall then be strained and cooled at once to 60° F. or below, and kept at this temperature until pasteurized, provided that after June 1, 1914, the temperature to which the milk must be cooled and at or below which it must be kept shall be 55° F.

(g) All milk, cream, skim milk, or buttermilk required to be pasteurized shall not yield more than a perceptible amount of sediment or stain other than that of natural butter fat when a pint sample of the same is filtered through a pledget of cotton 1 inch in diameter, and shall be entirely free from disease-producing bacteria and blood, pus, or other matter, or things dangerous and detrimental to health.

Such milk and skim milk, before pasteurization, shall not contain more than 750,000 bacteria per cubic centimeter from October 1 to May 1, inclusive, and not more than 1,000,000 bacteria per cubic centimeter from May 2 to September 30, inclusive.

Such cream shall not contain more than 800,000 bacteria per cubic centimeter from October 1 to May 1, inclusive, and not more than 1,500,000 bacteria from May 2 to September 30, inclusive.

(h) Every person, firm, or corporation installing or operating a pasteurizer for the purpose of pasteurizing or treating milk, cream, skim milk, or buttermilk to be sold, offered for sale, or kept with the intention of selling, or for the pasteurization or treatment of milk, cream, skim milk, or buttermilk to be shipped or brought into the city of Chicago, shall notify the commissioner of health in writing, stating the time when and the place where such pasteurizer is to be installed, together with the name of the person or persons who will operate said pasteurizer, and shall file with said commissioner of health the names of the owners and the location of all farms from which the milk that is to be pasteurized at said plant is obtained.

The commissioner of health shall thereupon make, or cause to be made, an inspection of such pasteurizer and the premises or plant wherein the same is operated. He shall also inspect or cause to be inspected all farms the milk supply of which, after pasteurization at said plant, is sold or intended for sale or brought into the city of Chicago with the intention of selling for human consumption; and no such farms shall be allowed to bring or furnish milk or cream to said pasteurizing plant without first being inspected and found to comply with the requirements of article B of this ordinance.

It shall be unlawful for any person, firm, or corporation operating such a pasteurizer or pasteurizing plant to receive milk or cream from any farm which has not been inspected and passed by the commissioner of health.

If all of the foregoing provisions have been complied with, and the pasteurizer or pasteurizing equipment is such that 99 per cent of all bacteria and all pathogenic bacteria are killed in the milk treated therein at the temperature required in paragraphs (j) and (l) of article B of this ordinance, the commissioner of health shall issue a permit allowing the milk, cream, skim milk, or buttermilk pasteurized in such pasteurizer and on such premises to be brought into or sold in the city of Chicago. Every such permit shall expire on the 30th day of June following date of issue.

The commissioner of health may withdraw his approval by serving notice in writing when any such pasteurizer or pasteurizing plant is not operated in accordance with the provisions of this ordinance or when the milk received thereat or pasteurized therein is obtained from farms that do not comply with the requirements as set forth in article B of this ordinance or from farms which have not been inspected and found to comply with said requirements by the commissioner of health.

In case of dispute in regard to tests made of such pasteurizer or pasteurizing equipment, or in regard to the temperature to which the milk shall be heated, the person, firm, or corporation making application to operate a pasteurizer may make application to the commissioner of health to have the said pasteurizer or pasteurizing equipment reinspected. Such reinspection or retesting shall be done by one person designated by the commissioner of health and another by the person, firm, or corporation owning or operating said pasteurizer, and in case of failure or inability to agree the two to select a third.

(i) In all continuous pasteurization the milk and cream shall be heated to a temperature which shall be determined and fixed by the commissioner of health for each machine at a point corresponding to a temperature required to kill 99 per cent of the bacteria and all pathogenic bacteria contained in the raw product, and shall show no colon bacilli in 1 c. c. as determined by cultural methods.

All continuous pasteurizers shall be equipped with feeding pipe which is so constructed that the pasteurizer can not be fed in excess of its normal working capacity; that is, in excess of the working capacity of the machine at which 99 per cent of the bacteria are killed when the required amount of heat is applied.

A recording apparatus shall be installed upon all pasteurizers to record during operation the temperature of the pasteurized product as it flows from the heater. The thermometer of this recording apparatus must be accurate and kept submerged in the milk in such a way that it is not exposed to escaping steam or other heat, except the heated milk, provided that if the pasteurizing is done in bottles or in other final containers the temperature-recording apparatus must be attached and adjusted in a manner so as to accurately record the temperature to which the milk, cream, skim milk, or buttermilk is raised, and the duration of time for which said temperature is maintained.

The records made by this recording thermometer must be accurate and made in a chamber which is kept under lock and key in the control of the commissioner of health.

The mechanism of the pasteurizer or pasteurizing system shall be such that the three important elements, namely, the temperature, time of exposure, and the quantity of milk exposed at one time can be readily kept under control and observation by the commissioner of health.

(j) The following conditions as to degrees of heat and time of exposure shall be complied with:

A uniform heating of 140° F. for 20 minutes, or 150° F. maintained for 15 minutes, 155° F. maintained for 5 minutes, or 160° F. maintained for 1½ minutes, or 165° F. maintained for 1 minute. The time shall be calculated from the period that the entire quantity reaches the required temperature.

(k) All milk, cream, skim milk, or buttermilk produced and handled in the manner required in article B of this section shall be labeled "Pasteurized milk," "Pasteurized cream," "Pasteurized skim milk," or "Pasteurized buttermilk," as the case may be, in letters not less than three-sixteenths of an inch high on the cap or cover of every package, when contained in bottles or receptacles of a similar character, and not less than five-eighths of an inch high on a tag attached to each container when contained in cans, together with a serial number corresponding with the number of the permit given by the commissioner of health to the person, firm, or corporation for the pasteurizer or plant pasteurizing said milk, cream, skim milk, or buttermilk; and the cap or stopper of the bottles or receptacles of a similar character in which said pasteurized milk, cream, skim milk, or buttermilk shall be contained shall be plainly marked with the name of the day of the week upon which said milk, cream, skim milk, or buttermilk inclosed in said bottles or receptacles of a similar character was pasteurized; provided that it shall be unlawful for any person, firm, or corporation to mark, cause to be marked, or permit to be marked upon any bottle or receptacle of similar character containing pasteurized milk, cream, skim milk, or buttermilk the name of any other day than that upon which the contents inclosed in bottles or containers of similar character was pasteurized.

(l) After January 1, 1914, all milk, cream, skim milk, or buttermilk which is not of the grade or kind defined in this section as "Inspected" shall be pasteurized at a temperature of not less than 140° F. for not less than 20 minutes or not less than 155° F. for not less than 5 minutes.

(m) The pasteurized product shall be cooled at once to a temperature of 45° F. or below. This cooling shall be so conducted that the pasteurized product is not exposed to possible sources of contamination. This cooling apparatus shall be so constructed that it can be readily cleaned and sterilized.

Milk, cream, or skim milk shall be inclosed in tightly capped bottles or packages of a similar character, or in sealed cans immediately after pasteurization.

Pasteurized milk, cream, skim milk, or buttermilk shall be kept at a temperature of 50° F. or below while the same is stored or kept at a pasteurizing plant, bottling establishment, or milk depot.

Pasteurized milk, cream, skim milk, or buttermilk, exposed for sale, offered for sale, or sold to the consumer shall be contained in tightly closed and capped bottles or receptacles of a similar character.

Pasteurized milk and skim milk shall not contain more than 50,000 bacteria per cubic centimeter from October 1 to May 1, inclusive, and not more than 100,000 bacteria per cubic centimeter from May 2 to September 30, inclusive. Pasteurized cream shall not contain more than 150,000 bacteria per cubic centimeter from October 1 to May 1, inclusive, and not more than 300,000 bacteria per cubic centimeter from May 2 to September 30, inclusive, and shall not contain colon bacilli in 1 cubic centimeter as determined by cultural methods.

In the determination of the number of bacteria the culture media used shall be 1 per cent agar agar, having a reaction of plus 1.5 on the Fuller scale.

The quantity of culture media used shall be 10 cubic centimeters per plate. The Petri dishes shall be 100 millimeters in diameter.

The plate cultures shall be incubated at a temperature of 37° C. for a period of two days.

The Petri dishes selected for counting shall be those containing not less than 20 nor more than 200 colonies per plate.

(n) Milk, cream, skim milk, or buttermilk which has been pasteurized and held for a period of 12 hours or more after such pasteurization shall not be repasteurized or reheated for the purpose of enhancing the keeping qualities of such milk, cream, skim milk, or buttermilk.

1274. *Penalty and seizure.*—Every person, firm, or corporation violating any of the provisions of the foregoing section shall be fined not less than \$5 or more than \$200 for

each and every offense: *Provided, however,* That whenever the commissioner of health of the city of Chicago shall discover that any person, firm, or corporation has violated any of the provisions of the foregoing sections, said commissioner shall within 10 days from the date of such discovery, before suit is commenced, notify in writing the person, firm, or corporation guilty of said violation that said violation has occurred, said notice to state the particular provision of the foregoing section or sections that has been violated. All milk, cream, skim milk, or buttermilk brought into the city of Chicago, or sold, offered for sale, or kept with the intention of selling, or of using in the manufacture of ice cream, which does not comply with the requirements as set forth in the foregoing section, or with the standards therein set forth, shall be condemned by the commissioner of health and rendered unfit for human food by coloring or otherwise treating, or shall be condemned, seized, and destroyed: *Provided,* That if in the opinion of the commissioner of health it is proper to do so the said milk, cream, skim milk, or buttermilk may be tagged as follows: "Condemned, commissioner of health, Chicago," and returned to the shipper or producer.

SEC. 2. This ordinance shall take effect from and after its passage.

DETROIT, MICH.

DOGS—MUZZLING OF AND CONDITIONS UNDER WHICH THEY MAY BE KEPT. (ORDINANCE ADOPTED SEPT. 7, 1912.)

SECTION 1. That sections 1, 2, 5, 7, and 10 of chapter 151 of the Compiled Ordinances of the City of Detroit for the year 1904 be, and the same are hereby, amended so as to read as follows:

SECTION 1. It shall be unlawful for any person to own, possess, or harbor a dog in the city of Detroit without first having obtained a license therefor from the mayor, in compliance with the provisions hereinafter set forth: *Provided,* That at no time shall any dog so owned or harbored be allowed to go at large without being provided with a good and sufficient muzzle, rendering it impossible for such dog to bite or snap.

SEC. 2. Upon application filed with the license clerk, giving the full name and residence of the applicant, the mayor shall cause to be issued by such clerk to each applicant a license to own or harbor a dog and to permit the same to run at large for the term commencing from the date of such license and terminating the 1st day of May following, excepting as herein otherwise provided. Said license shall contain on the back thereof a printed copy of this ordinance.

SEC. 5. No person shall harbor or keep any dog which by loud or frequent or habitual barking, yelping, or howling shall cause serious annoyance to the neighborhood or to people passing to and fro upon the streets. No person shall own or harbor a fierce or vicious dog, or a dog that has been bitten by any animal known to have been afflicted with rabies. No owner or person harboring or keeping any such dog shall suffer the same to run at large at any time within the city limits, nor shall any person owning or harboring a bitch in heat permit or suffer the same to run at large within the city limits. Any person allowing a dog habitually to remain and be lodged within his or her house, store, building, inclosure, or premises shall be considered as harboring or keeping the same within the meaning of this ordinance. It shall be the duty of every person owning or harboring a dog which has been attacked or bitten by another dog or other animal showing the symptoms of rabies to immediately notify the police department that they have such a dog in their possession.

SEC. 7. It shall be the duty of every patrolman in said police department and of every other person who may be appointed by the common council for that purpose to promptly seize, take up and place in said pound all the dogs that may found running at large, harbored or owned contrary to the provisions of this ordinance; and for every dog so impounded the patrolman or party appointed as herein provided, delivering the same at the pound, shall be entitled to receive from the city treasurer the sum of 25 cents upon surrender to the treasurer of the receipt mentioned in section 8 hereof.

SEC. 10. All dogs not claimed and released within 48 hours after being impounded shall be destroyed, or if the animal is worthy and valuable the same shall be sold by the poundmaster at the pound by a public outcry to the highest bidder, at the hour of noon next succeeding the said 48 hours: *Provided*, That dogs impounded because found at large, unmuzzled, shall be destroyed forthwith: *And provided*, That dogs impounded having been exposed to rabies, or any dog that has attacked a person, shall be kept until such time and under such conditions as shall be required by the board of health, and it shall be the duty of the poundmaster to notify the board of health when he has any good reason to believe that he has such dog in his possession.

SEC. 11. This ordinance shall take immediate effect.

GALVESTON, TEX.

PLAGUE—PREVENTION OF THE INTRODUCTION OF BY VESSELS. (ORDINANCE ADOPTED AUG. 29, 1912.)

SECTION 1. It shall be unlawful for any persons in charge of any vessel having sailed from or having touched at a port infected with bubonic plague or suspected of infection with bubonic plague, to dock, berth, or moor, or to cause to be docked, berthed, or moored, any such vessel at or to any wharf, pier, or bulkhead in the harbor of Galveston, without first having obtained written permission from the health physician of the city of Galveston so to do; and the person in charge of such vessel shall make written application to the said health physician for such permission, which application shall set forth the name of said vessel, the name of the master thereof, and the name of the agent or consignee, the character of the cargo contained in said vessel, the name of the port from which said vessel sailed, the name of all ports at which said vessel may have touched or called since said sailing, the time and place when and where said vessel was last fumigated, and the dock or pier in Galveston at which said vessel proposes to dock.

SEC. 2. It shall be unlawful for any person in charge of any vessel to lay, fasten, or cause to be laid or fastened any line, rope, or cable from said vessel to any wharf, pier, or bulkhead, or to any other vessel, in the harbor of Galveston unless such line, rope, or cable is fixed and equipped with what is known as a rat protector or rat guard, the same being not less than 36 inches in diameter and of a pattern or design approved by the city health physician.

SEC. 3. It shall be unlawful for any person in charge of any vessel to lay, place, or install, or to cause to be laid, placed, or installed, any plank, step, gangplank, or gangway from such vessel to any other vessel or to any wharf, pier, or bulkhead in the harbor of Galveston save and except during such time as said vessel may be actually receiving or discharging cargo or passengers, and immediately upon such vessel's ceasing to receive or discharge cargo or passengers any and all planks, steps, gangplanks or gangways leading from said vessel to any other vessel or to any wharf, pier, or bulkhead shall be withdrawn and removed.

SEC. 4. Before any such vessel as is described in section 1 of this ordinance shall receive or discharge cargo or passengers between the hours of sunset and sunrise, the person in charge of such vessel shall so notify the health physician of the city of Galveston, and said health physician shall thereupon place a competent guard or watchman upon said vessel, whose duty it shall be to see that all the provisions of this ordinance are complied with and the said guard or watchman shall be paid for his services by the person in charge of the said vessel.

SEC. 5. By the term "any person in charge of any vessel" as used in this ordinance is meant any person who as master or officer is in charge of and has authority over said vessel.

SEC. 6. Whenever the deck of any vessel berthed, moored, or docked at any wharf, pier, or bulkhead in the harbor of the city of Galveston shall get to be less than 7 feet above the surface of such wharf, pier, or bulkhead then in that case said vessel

shall be fended away from such pier, wharf, or bulkhead (except during stormy weather) a distance of not less than 4 feet by short floating spars fastened together; and in such case the rat guard or protector on each line, rope, or hawser of such vessel shall be placed not more than 1 foot distant from said vessel.

SEC. 7. It shall be unlawful for any person in charge of any vessel to discharge or permit to be discharged from such vessel any freight, cargo, or passengers without maintaining a strict guard on all gangways, planks, or steps leading from said vessel to prevent the escape of rats from said vessel.

SEC. 8. It shall be unlawful for any person to unload or remove or to permit to be unloaded or removed any crated cargo from any vessel in the harbor of the city of Galveston until said crated cargo shall have been carefully inspected to insure against rats being brought ashore in such cargo.

SEC. 9. Any person who shall violate any section of this ordinance shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined in any sum not less than \$25 and not exceeding \$200.

SEC. 10. The ordinance regulating vessels having sailed from or having touched at a port infected or suspected of infection with bubonic plague and regulating the docking of and berthing of such vessels and prescribing penalties as passed by the board of commissioners of the city of Galveston on July 25, 1912, is hereby repealed.

SEC. 11. This ordinance shall be in force and take effect from and after the due publication thereof as provided by law.

LOS ANGELES, CAL.

HOSPITALS, SANATORIUMS, AND MATERNITY OR LYING-IN ASYLUMS—ESTABLISHMENT AND MAINTENANCE OF. (ORDINANCE NO. 25032, ADOPTED MAY 7, 1912.)

SECTION 1. For the purpose of this ordinance a hospital, sanitarium, sanatorium, maternity or lying-in asylum is hereby defined to be any institution or place used for the reception or care, either temporary or continuous of one or more sick, injured, or dependent persons, including any woman or women awaiting confinement, or used for the treatment and care of one or more persons suffering from or afflicted with any mental or physical disease or bodily injury.

SEC. 2. It shall be unlawful for any person, firm, or corporation to establish, maintain, or conduct in the city of Los Angeles any hospital, sanatorium, sanitarium, or any maternity or lying-in asylum for the reception and care or treatment of any human being without first having obtained a permit, in writing, from the health commissioner of the city of Los Angeles so to do: *Provided, however,* That nothing herein contained shall be construed to require any person, firm, or corporation to obtain such a permit if such person, firm, or corporation has, prior to the adoption of this ordinance, obtained a permit from the board of health or the health commissioner of said city for the purposes specified in this ordinance and such permit has not been suspended or revoked.

SEC. 3. The health commissioner shall have power to issue permits for any such hospital, sanitarium, sanatorium, maternity or lying-in asylum, and every such permit shall specify the name and residence of the person, firm, or corporation conducting such hospital, sanitarium, sanatorium, or maternity or lying-in asylum, and the street and number where the same is located, and shall be revokable or suspended for cause by said health commissioner in any case where the provisions of this ordinance or the provisions of any of the ordinances of the city pertaining to sanitation and health or any of the rules and regulations of the health department are violated, or in any case where, in the judgment of the said health commissioner, such hospital, sanitarium, sanatorium, maternity or lying-in asylum is being managed, conducted, or maintained without due regard to the health, comfort, or morality of the inmates thereof, or without due regard to proper sanitary or hygienic arrangement or appliances. Said permit shall not be issued unless it appears to the health

commissioner that such hospital, sanitarium, sanatorium, maternity or lying-in asylum conforms in arrangement, sanitation, and equipment to the provisions of the ordinances of the city of Los Angeles and all rules and regulations of the health department of said city pertaining thereto.

SEC. 3. It shall be unlawful for any person, firm, or corporation to establish, operate, maintain, or conduct within the city of Los Angeles any hospital, sanitarium, sanatorium, or other place for the reception and care of persons affected with tuberculosis, diphtheria, or scarlet fever within 200 feet of any church, schoolhouse, or dwelling.

SEC. 4. It shall be the duty of every person, firm, or corporation operating or maintaining a hospital, sanitarium, sanatorium, or maternity or lying-in asylum to keep a register wherein shall be entered the names and addresses of all inmates or persons received for treatment, or treated, in such hospital, sanitarium, sanatorium, or maternity or lying-in asylum, and of all children born therein. Said register shall also contain the name and age of every child who is given out to, or adopted, or taken therefrom by any person, together with the name and residence of the person so adopting or taking such child therefrom, and, within 48 hours after such child is given out or taken away the person, firm, or corporation operating or conducting such hospital, sanitarium, sanatorium, or maternity or lying-in asylum shall cause a correct copy of the register relating to such child to be delivered to the health commissioner of said city.

SEC. 5. It shall be unlawful for any person, firm, or corporation conducting, managing, maintaining, or in control of any hospital, sanitarium, sanatorium, maternity or lying-in asylum to fail, neglect, or refuse to permit or allow the health commissioner, his assistants, deputies, or inspectors, at all reasonable times, to enter and inspect any such hospital, sanitarium, sanatorium, maternity or lying-in asylum and to visit the inmates therein and to inspect the permit and the register and the sanitary condition of any such hospital, sanitarium, sanatorium, maternity or lying-in asylum.

SEC. 6. That any person, firm, or corporation violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punishable by a fine of not more than \$500, or by imprisonment in the city jail for a period of not more than six months, or by both such fine and imprisonment.

SEC. 7. That ordinance No. 13309 (new series), approved September 8, 1906, and all ordinances and parts of ordinances in conflict herewith are hereby repealed; provided, that any such repeal shall not affect or prevent the prosecution and punishment of any person, firm, or corporation for any act done or permitted in violation of any ordinance which may be repealed by this ordinance, and shall not affect any prosecution or action which may be pending in any court for the violation of any ordinance repealed by this ordinance.

MILWAUKEE, WIS.

TUBERCULOSIS—DIVISION OF, CREATED IN HEALTH DEPARTMENT. (ORDINANCE ADOPTED JUNE 24, 1912.)

SECTION 1. There is hereby created a division of the city health department to be known as the "division of tuberculosis," and there is hereby further created the position of chief of the division of tuberculosis, two tuberculosis nurses, and one stenographer-clerk.

SEC. 2. It shall be the duty of the chief of the division of tuberculosis to carry out, under the direction of the commissioner of health, such work as may be undertaken by the health department toward eliminating tuberculosis and its causes in the city of Milwaukee. It shall further be the duty of said chief to direct the activities of said tuberculosis nurses herein created or other employees which may hereafter be created. It shall further be the duty of said chief of the division of tuberculosis

to cooperate with such associations, societies, or other organizations as may work in conjunction with the health department of the city of Milwaukee in an effort to eliminate tuberculosis and its causes.

SEC. 3. The chief of the division of tuberculosis shall receive a salary of \$1,500 per year, payable monthly in the same manner as the salaries of other city employees are paid.

SEC. 4. The stenographer-clerk of the division of tuberculosis shall receive a salary of \$720 per year, payable monthly in the same manner as the salaries of the other city employees are paid.

SEC. 5. There are hereby created the positions of two nurses to serve in the division of tuberculosis, each to receive a salary of \$75 per month, payable in the same manner as the salaries of other city employees are paid.

SEC. 6. All employees of the division of tuberculosis shall be appointed by the commissioner of health.

SEC. 7. The salaries herein named shall be payable out of the emergency reserve fund, and there is hereby set aside out of said fund a sufficient sum to pay all salaries herein created.

SEC. 8. All ordinances or parts of ordinances contravening the provisions of this ordinance are hereby repealed.

SEC. 9. This ordinance shall take effect and be in force from and after its passage and publication.

SOUTHBRIDGE, MASS.

FOODSTUFFS—PROTECTION OF. (REGULATION BOARD OF HEALTH, APPROVED OCT. 10, 1912.)

Whereas the exposure of foodstuffs to street dust, insects, and animals is liable to infect and corrupt such foodstuffs, it is hereby ordered that meat, poultry, game, fish, dates, figs, cherries, grapes, berries, cut melons, cracked nuts or nut meats, candies, maple sugar, confectionery, or bakers' products shall not be kept, sold, or offered for sale in or near an open window or doorway, outside of a building, or in a street or private way, or public place of the town of Southbridge, unless so covered or screened as to be protected from dust and flies or from contact with animals.

No article intended to be used as food shall be exposed or displayed in any street or way, or in front of any place of business, unless the bottom of the box or other receptacle containing such articles is raised at least 24 inches above the sidewalk, platform, or landing upon which such receptacle rests.

Meats or other products as named above shall not be carried through any street, private way, or public place unless properly protected or screened from dust and flies. Every person being the occupant or lessee of any room, stall, building, or place where any meat, poultry, game, fish, sea food, milk, vegetables, butter, fruit, confectionery, bakers' products, or other articles intended for human food shall maintain such room, stall, building, or place and its appurtenances in a clean and wholesome condition. Every peddler of foodstuffs from wagons or carts, in addition to the covering or screen provided for in this regulation, shall keep in his wagon or cart a suitable receptacle for the wastes of his business, such wastes to be disposed of in a manner that shall not create a nuisance.

No person or corporation, individually or by its agents, servants, or employees, shall transport meat or poultry of any kind or description through the streets or other public ways of Southbridge except in wagons or vehicles which have been thoroughly washed at least once in every 24 hours.

TOLEDO, OHIO.

FOODSTUFFS—PROTECTION OF.

(Regulation Board of Health, adopted June 19, 1912.)

SECTION 1. That no person or persons shall operate any bakery, confectionery, creamery, dairy, dairy barn, milk depot, laboratory, hotel, restaurant or eating house, packing or slaughter house, or ice cream plant, or any place where any butter, butterine, meat, fruit, cake, candy, confectionery, fish, fowl, vegetable, lard, cheese, bird, or any other food article or food product is manufactured, packed, stored, deposited, collected, prepared, kept, or exposed for sale, or offered for sale, produced or sold, for any purpose whatever, where any of the said food articles or food products are not securely protected by coverings, or otherwise, so as to thoroughly protect the same from dust, dirt, flies, and by all reasonable means from all foreign or injurious contamination.

SEC. 2. That no employee, person or persons operating any place recited in the first section of this resolution shall knowingly require, permit, or suffer any person to work in any building, room, cellar, basement, or vehicle, or any other place occupied or used for the purpose or purposes recited in section 1 hereof who is affected with any venereal disease, smallpox, diphtheria, scarlet fever, yellow fever, tuberculosis or consumption, bubonic plague, Asiatic cholera, leprosy, trachoma, typhoid fever, epidemic dysentery, measles, mumps, German measles, whooping cough, chicken pox, or any other infectious or contagious or loathsome disease.

SEC. 3. Any person violating any of the provisions of this resolution shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than \$25 nor more than \$100 for the first offense, and for each subsequent offense shall be fined not less than \$50 nor more than \$200, or imprisoned in the workhouse not less than 30 days nor more than 90 days, or both.

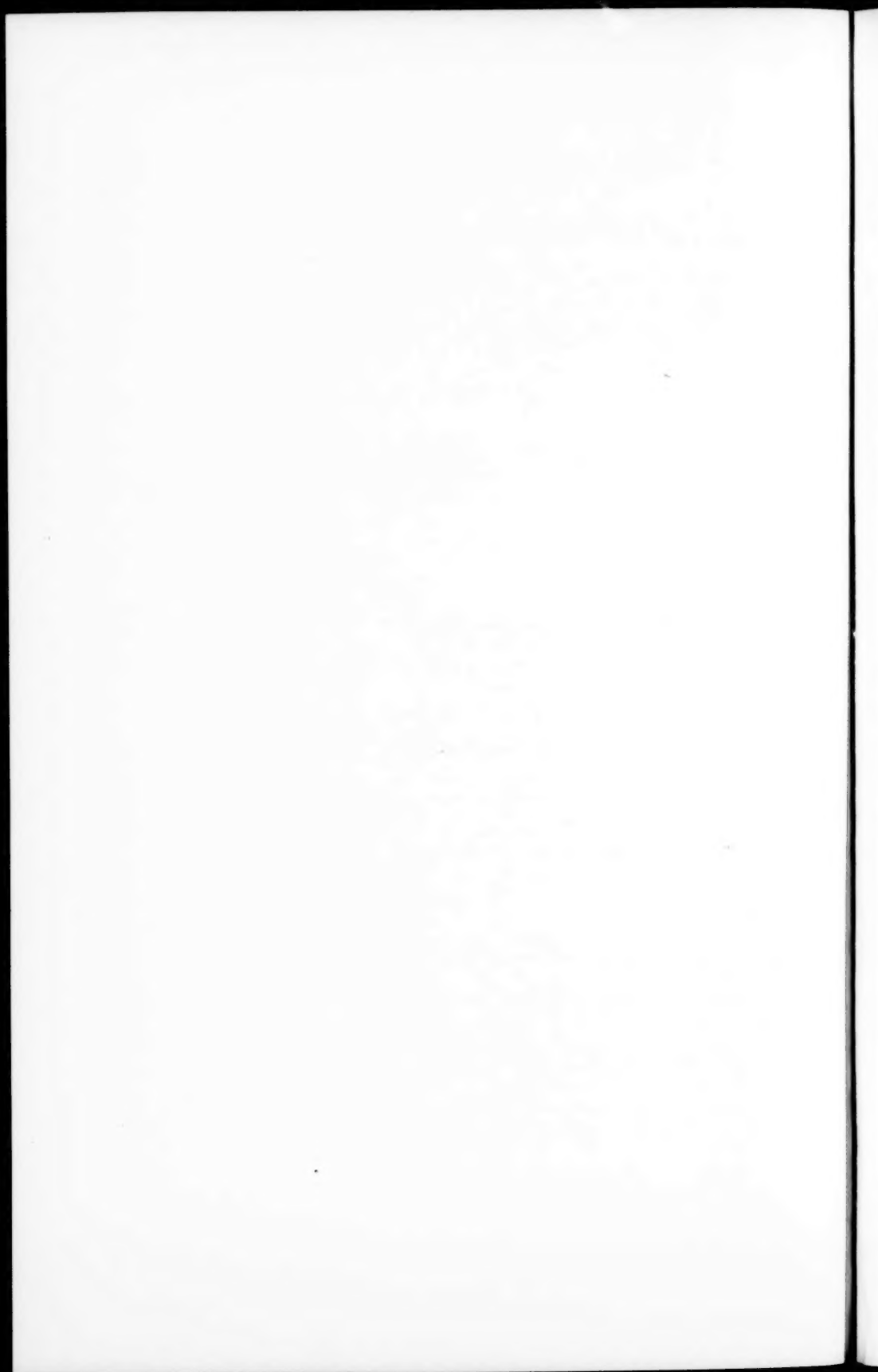
This resolution to take and be in effect on and after the due notice thereof as provided by law.

WASHINGTON, D. C.

WHOOPIING COUGH—APPEARANCE ON THE PUBLIC STREETS OF THOSE SUFFERING FROM. (ORDINANCE ADOPTED JUNE 7, 1912.)

Ordered: That the regulations promulgated by the Commissioners of the District of Columbia on April 5, 1907, for the prevention of the spread of scarlet fever, diphtheria, measles, whooping cough, chicken pox, epidemic cerebrospinal meningitis, and typhoid fever, is hereby amended by inserting after the proviso appended to section 2, the words, "and if the patient be under 18 years of age, not unless accompanied by an attendant 18 years or more of age, duly authorized and empowered by the parent or guardian of the patient to enforce the proper isolation of said patient," so that said proviso will read:

"Provided, That patients suffering from whooping cough may appear upon the public streets, and may go or be carried from place to place over the public streets without special authorization from the health officer, but not at such times and places or in such manner as to expose other persons to infection, and if the patient be under 18 years of age, not unless accompanied by an attendant 18 years or more of age, duly authorized and empowered by the parent or guardian of the patient to enforce the proper isolation of said patient."



PREVALENCE OF DISEASE.

IN CERTAIN STATES AND CITIES.

SMALLPOX.

State Reports.

Places.	Date.	Cases.	Deaths.	Remarks.
California:				
Counties—				
Alameda.....	Nov. 1-30.....	8		
Nevada.....	do.....	1		
Sacramento.....	do.....	1		
San Bernardino.....	do.....	2		
San Francisco.....	do.....	12	1	
Santa Clara.....	do.....	2		
Shasta.....	do.....	1		
Siskiyou.....	do.....	1		
Total.....		28	1	
Kansas:				
Counties—				
Geary.....	Sept. 1-30.....	6	1	
Russell.....	do.....	1		
Saline.....	do.....	2		
Shawnee.....	do.....	2	1	
Total.....		11	2	
South Dakota:				
Counties—				
Aurora.....	Nov. 1-30.....	2		
Brown.....	do.....	6		
Douglas.....	do.....	1		
Grant.....	do.....	2		
Hand.....	do.....	1		
Hutchinson.....	do.....	1		
Jerauld.....	do.....	1		
Marshall.....	do.....	8		
Pennington.....	do.....	1		
Sanborn.....	do.....	1		
Spink.....	do.....	1		
Stanley.....	do.....	1		
Walworth.....	do.....	1		
Total.....		27		
Utah:				
Counties—				
Boxelder.....	Nov. 1-30.....	5		
Cache.....	do.....	18		
Carbon.....	do.....	3		
Davis.....	do.....	4		
Juab.....	do.....	1		
Millard.....	do.....	7		
Morgan.....	do.....	1		
Salt Lake.....	do.....	174		
San Pete.....	do.....	11		
Sevier.....	do.....	3		
Utah.....	do.....	38		
Wasatch.....	do.....	1		
Weber.....	do.....	12		
Total.....		278		
Wyoming:				
Counties—				
Carbon.....	Nov. 1-30.....	1		October; none.
Sweetwater.....	do.....	1		
Total.....		2		
Grand total.....		346	3	

Maryland—Garrett County—Two New Foci Smallpox.

The State department of health of Maryland reported by telegraph December 28 that there were two new foci of smallpox infection in the State as follows: Frankville, Garrett County, 1 case; Deer Park, Garrett County, 1 case.

City Reports for Week Ended Dec. 14, 1912.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Chicago, Ill.....	1	.....	Lexington, Ky.....	1	.....
Danville, Ill.....	1	.....	New Orleans, La.....	1	.....
Duluth, Minn.....	7	.....	Omaha, Nebr.....	3	.....
Evansville, Ind.....	17	.....	Spokane, Wash.....	2	.....
Knoxville, Tenn.....	1	.....	Toledo, Ohio.....	5	.....
La Crosse, Wis.....	3	.....	Zanesville, Ohio.....	4	.....

CEREBROSPINAL MENINGITIS.

Cases and Deaths Reported by Cities for Week Ended Dec. 14, 1912.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Baltimore, Md.....	.....	1	Nashville, Tenn.....	2	1
Chicago, Ill.....	1	.....	New York, N. Y.....	2	1
Cleveland, Ohio.....	1	1	Philadelphia, Pa.....	2	2
Los Angeles, Cal.....	1	.....	St. Joseph, Mo.....	1	1
Malden, Mass.....	1	.....	Waltham, Mass.....	.....	1

POLIOMYELITIS (INFANTILE PARALYSIS).

During the week ended December 14, 1912, poliomyelitis was reported by cities as follows: Chicago, Ill., 2 cases; Haverhill, Mass., 1 case; Los Angeles, Cal., 2 cases; New York, N. Y., 8 cases.

ERYSIPELAS.

Cases and Deaths Reported by Cities for Week Ended Dec. 14, 1912.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Binghamton, N. Y.....	4	.....	Milwaukee, Wis.....	4	1
Cincinnati, Ohio.....	2	.....	Nanticoke, Pa.....	1	.....
Cleveland, Ohio.....	5	.....	New York, N. Y.....	22	3
Dunkirk, N. Y.....	1	.....	Norristown, Pa.....	1	.....
Fall River, Mass.....	.....	1	Philadelphia, Pa.....	14	1
Kalamazoo, Mich.....	2	.....	St. Louis, Mo.....	7	.....
Los Angeles, Cal.....	2	.....	South Bethlehem, Pa.....	1	.....

PELLAGRA.

During the week ended December 14, 1912, pellagra was reported by cities as follows: Los Angeles, Cal., 1 death; Nashville, Tenn., 1 case; Portsmouth, Va., 1 death.

PLAGUE.**California—Rats Collected and Examined for Plague.**

Places.	Week ended—	Dead.	Collected.	Examined.	Infected.
Berkeley.....	Dec. 14, 1912	0	162	113	.....
Oakland.....	do.....	13	608	511	.....
San Francisco.....	do.....	19	1,647	1,247	.....

California—Squirrels Collected and Examined for Plague Infection.

During the week ended December 14, 1912, there were examined for plague infection 162 ground squirrels from San Joaquin County and 68 from Santa Clara County. No plague-infected squirrel was found.

PNEUMONIA.**Cases and Deaths Reported by Cities for Week Ended Dec. 14, 1912.**

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alameda, Cal.....	1	1	Montgomery, Ala.....	.....	4
Altoona, Pa.....	.....	3	Mount Vernon, N. Y.....	6	.....
Auburn, N. Y.....	1	1	Nashville, Tenn.....	.....	6
Aurora, Ill.....	.....	1	Newark, N. J.....	.....	16
Baltimore, Md.....	24	.....	New Bedford, Mass.....	.....	5
Bayonne, N. J.....	.....	5	Newburyport, Mass.....	.....	1
Beaver Falls, Pa.....	3	.....	New Orleans, La.....	.....	7
Berkeley, Cal.....	.....	1	Newport, Ky.....	1	1
Binghamton, N. Y.....	4	3	Newton, Mass.....	.....	3
Boston, Mass.....	.....	31	New York, N. Y.....	.....	135
Braddock, Pa.....	3	.....	Ningara Falls, N. Y.....	.....	1
Brockton, Mass.....	.....	3	North Adams, Mass.....	.....	1
Cambridge, Mass.....	.....	5	Oakland, Cal.....	.....	6
Chelsea, Mass.....	.....	1	Oklahoma City, Okla.....	.....	2
Chicago, Ill.....	46	116	Omaha, Nebr.....	.....	5
Cincinnati, Ohio.....	.....	23	Pasadena, Cal.....	.....	1
Cleveland, Ohio.....	38	16	Passaic, N. J.....	.....	10
Clinton, Mass.....	.....	1	Pawtucket, R. I.....	.....	4
Columbus, Ga.....	.....	1	Peoria, Ill.....	.....	4
Columbus, Ind.....	.....	2	Philadelphia, Pa.....	47	56
Danville, Ill.....	.....	1	Pittsfield, Mass.....	.....	1
Dayton, Ohio.....	.....	3	Plainfield, N. J.....	2	.....
Duluth, Minn.....	1	1	Portsmouth, N. H.....	.....	3
Dunkirk, N. Y.....	2	2	Providence, R. I.....	.....	9
Elizabeth, N. J.....	.....	1	St. Joseph, Mo.....	.....	4
Evansville, Ind.....	.....	5	San Diego, Cal.....	5	5
Fall River, Mass.....	.....	5	Saratoga Springs, N. Y.....	.....	1
Grand Rapids, Mich.....	1	2	Seattle, Wash.....	.....	1
Harrisburg, Pa.....	.....	1	South Bend, Ind.....	.....	1
Hartford, Conn.....	.....	5	South Bethlehem, Pa.....	2	.....
Kalamazoo, Mich.....	1	.....	Spokane, Wash.....	.....	2
Knoxville, Tenn.....	.....	1	Springfield, Mass.....	.....	3
Jersey City, N. J.....	14	14	Steelton, Pa.....	2	.....
La Fayette, Ind.....	.....	2	Superior, Wis.....	.....	1
Lancaster, Pa.....	2	.....	Taunton, Mass.....	.....	1
Lexington, Ky.....	.....	2	Toledo, Ohio.....	.....	1
Logansport, Ind.....	.....	2	Waltham, Mass.....	.....	2
Los Angeles, Cal.....	2	22	Washington, D. C.....	.....	14
Lowell, Mass.....	.....	6	Wilkes-Barre, Pa.....	.....	4
Lynchburg, Va.....	.....	2	Williamsport, Pa.....	3	4
Lynn, Mass.....	.....	2	Wilmington, N. C.....	3	2
Manchester, N. H.....	1	1	Yonkers, N. Y.....	.....	4
Marlboro, Mass.....	.....	1	York, Pa.....	1	.....
Melrose, Mass.....	.....	1	Zanesville, Ohio.....	.....	1
Moline, Ill.....	.....	1			

TETANUS.**Cases and Deaths Reported by Cities for Week Ended Dec. 14, 1912.**

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alameda, Cal.....	1	.....	New Orleans, La.....	.....	3
Dayton, Ohio.....	.....	1	New York, N. Y.....	.....	1
Jersey City, N. J.....	.....	1	Philadelphia, Pa.....	1	.....

SCARLET FEVER, MEASLES, DIPHTHERIA, AND TUBERCULOSIS.

Cases and Deaths Reported by Cities for Week Ended Dec. 14, 1912.

Cities.	Popula- tion, United States census 1910.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tubercu- losis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Over 500,000 inhabitants:										
Baltimore, Md.	558,485	189	38	6	44	1	25		32	18
Boston, Mass.	670,585	193	31	4	170	3	53	2	45	20
Chicago, Ill.	2,185,283	641	205	34	224	4	186	13	159	56
Cleveland, Ohio.	560,663	158	90	7	35		30	1	22	8
New York, N. Y.	4,766,883	1,333	309	30	274	8	232	8	394	153
Philadelphia, Pa.	1,549,008	492	68	9	202	3	120	4	103	53
St. Louis, Mo.	687,029	229	215	5	74	2	23	1	22	16
From 300,000 to 500,000 inhabi- tants:										
Cincinnati, Ohio.	364,463		28	1	330	3	18	1	11	16
Los Angeles, Cal.	319,198	122	7		2		14		19	17
Milwaukee, Wis.	373,857		20	4	4		14	1	14	10
Newark, N. J.	347,469	110	39	2	10		21		41	11
New Orleans, La.	339,075	140	31	2	12		4		23	14
Washington, D. C.	331,069	112	7		37	1	8		22	10
From 200,000 to 300,000 inhabi- tants:										
Jersey City, N. J.	267,779	92		2				1		8
Providence, R. I.	224,326	72	18	1	4		9		5	5
Seattle, Wash.	237,194	34	8		25		3		10	5
From 100,000 to 200,000 inhabi- tants:										
Bridgeport, Conn.	102,054	42	9	1			2	1	3	4
Cambridge, Mass.	104,839	20	5	1	1		5		4	3
Dayton, Ohio.	116,577	42	18	2	2		5		3	3
Fall River, Mass.	119,295	43	2		1		7		6	3
Grand Rapids, Mich.	112,571	31	7				1			2
Lowell, Mass.	106,294	43	4	1			229		1	5
Nashville, Tenn.	110,364	41	4				4		2	2
Oakland, Cal.	150,174	37					2		2	1
Omaha, Nebr.	124,096	22	3		1		1			
Spokane, Wash.	104,402									2
Toledo, Ohio.	168,497	49	11	1	17		16		5	5
Worcester, Mass.	145,986	42	21	1			4		9	4
From 50,000 to 100,000 inhabi- tants:										
Altoona, Pa.	52,127	17	7	1			5	1		2
Bayonne, N. J.	55,545	15	3	1	2		3		2	
Brockton, Mass.	56,878	16			3		1		5	2
Camden, N. J.	94,538		13		2		5		3	
Duluth, Minn.	78,466	16					2	1	1	1
Elizabeth, N. J.	73,409	17	7		12		4		2	1
Evansville, Ind.	69,647	25	11				2			1
Harrisburg, Pa.	64,186	15	2		1				2	
Hartford, Conn.	98,915	44	5		5		29	1	4	1
Hoboken, N. J.	70,324		6		4		1		7	1
Kansas City, Kans.	82,331		5				2		1	
Lynn, Mass.	89,336	23	4		10		6			2
Manchester, N. H.	70,063	20	6		2				2	2
New Bedford, Mass.	96,652	27	4		7				3	3
Oklahoma City, Okla.	64,205	9					1			1
Passaic, N. J.	54,773	23	3		6		2		2	1
Pawtucket, R. I.	51,622	4								
Peoria, Ill.	66,950	16	2							
Reading, Pa.	96,071	27	7		13		3			
Saginaw, Mich.	50,510	10	1		35		2			
St. Joseph, Mo.	77,403	21			1		1			
Schenectady, N. Y.	72,826	16	2		1		3		2	2
South Bend, Ind.	53,684	17	4	1			1		4	4
Springfield, Mass.	88,926	41	5		11		2		4	2
Trenton, N. J.	96,815	42	3	1	8		3		5	4
Wilkes-Barre, Pa.	67,105	22	6		3		6		5	1
Yonkers, N. Y.	79,803	21	4	2					8	4
Having from 25,000 to 50,000 in- habitants:										
Atlantic City, N. J.	46,150	10	2				3			
Auburn, N. Y.	34,668	12	1		9					
Aurora, Ill.	29,807	10	1							
Berkeley, Cal.	40,434	5	1							1
Binghamton, N. Y.	48,443	20			1				5	1
Brookline, Mass.	27,792	9	1						1	
Chattanooga, Tenn.	44,604						3			
Chelsea, Mass.	32,452	7	2		3		2			
Chicopee, Mass.	25,401	10			7		4	1		1
Danville, Ill.	27,871	8	1				8			
East Orange, N. J.	34,371		3							3
Elmira, N. Y.	37,176	13	4	1	1					

SCARLET FEVER, MEASLES, DIPHTHERIA, AND TUBERCULOSIS—Contd.

Cases and Deaths Reported for Cities for Week Ended Dec. 14, 1912—Continued.

Cities.	Population, United States census 1910.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Having from 25,000 to 50,000 inhabitants—Continued.										
Everett, Mass.	33,484	8			1		2		1	1
Fitchburg, Mass.	37,826	6	2		3				1	
Haverhill, Mass.	44,115		3		4		2			
Kalamazoo, Mich.	39,437	16	2	1					2	
Knoxville, Tenn.	36,346	11	1							
La Crosse, Wis.	30,417	10	1						1	1
Lancaster, Pa.	47,227		9				2			
Lexington, Ky.	35,099	10	3				1		1	2
Lynchburg, Va.	29,494	12	1		3		1		1	2
Malden, Mass.	44,404	9	8	1	2		1			
Montgomery, Ala.	38,136	20	1				1			1
Mount Vernon, N. Y.	30,919		1						1	
Newcastle, Pa.	36,280				1					
Newport, Ky.	30,309	10	7	1			7			
Newton, Mass.	39,806	21			1		1		1	
Niagara Falls, N. Y.	30,445	19	1			2				2
Norristown, Pa.	27,875	2								
Orange, N. J.	29,630	13	2				3		1	
Pasadena, Cal.	30,291	10					1		1	2
Pittsfield, Mass.	32,121	12	3				1		2	3
Portsmouth, Va.	33,190	16	3				1			
Racine, Wis.	38,002	19	3	1			1			
Roanoke, Va.	34,874	9	6		1		4		2	1
San Diego, Cal.	39,578	10	1		1				5	5
South Omaha, Nebr.	26,259	4								
Springfield, Ohio.	46,921		11	1	1		3			
Superior, Wis.	40,384	16	3	1						2
Taunton, Mass.	34,259	18	1				5			3
Waltham, Mass.	27,834	14	6	1			1		1	1
West Hoboken, N. J.	35,403						2		2	1
Wheeling, W. Va.	41,641	12	8	1	23			1	2	2
Williamsport, Pa.	31,860	12	4		1		1			
Wilmington, N. C.	25,748	11	5							
York, Pa.	44,750	2	2		17		3		1	
Zanesville, Ohio.	28,026	9	5							
Having less than 25,000 inhabitants:										
Alameda, Cal.	23,833		2						2	2
Beaver Falls, Pa.	12,191		2		1		1			
Biddeford, Me.	17,079	3								1
Braddock, Pa.	17,739				6					
Clinton, Mass.	13,075	2			67				1	
Coffeyville, Kans.	12,687						1		3	
Columbus, Ga.	20,554									1
Columbus, Ind.		4	3							
Cumberland, Md.	21,839	3	1		1					
Dunkirk, N. Y.		2			2		1			
Galesburg, Ill.	22,089	2	1							
Harrison, N. J.	14,489	4	1				1			
Kearny, N. J.	18,639	6	1				1		2	
La Fayette, Ind.	20,081	9								
Logansport, Ind.		11								
Marinette, Wis.	14,610	4					1			
Marlboro, Mass.	14,749	6								
Massillon, Ohio.	23,839	5	1							1
Medford, Mass.	23,150	6	1				2			2
Melrose, Mass.	15,715	2	1							
Moline, Ill.	24,190	8	1				1			
Montclair, N. J.	21,450	4					1		1	
Morristown, N. J.	17,507	1					1			
Nanticoke, Pa.	18,857	4	1							
Newburyport, Mass.	19,249	4					2		1	1
North Adams, Mass.	22,019	11	1		1			1		2
Northampton, Mass.	19,431	8			1		1		1	1
Ottumwa, Iowa.	23,012	10	2	2			2			
Palmer, Mass.		3								
Plainfield, N. J.	23,550	6								
Saratoga Springs, N. Y.		6								2
South Bethlehem, Pa.		4	1		2					
Steelton, Pa.	14,476	3								
Warren, Pa.	11,080	1			8		5		1	
Wilkesburg, Pa.	18,294	8	4		71		2			
Woburn, Mass.	18,594	5							1	1

IN INSULAR POSSESSIONS.

HAWAII.

Examination of Rodents for Plague Infection.

During the week ended December 7, 1912, 177 rats were examined at Honolulu for plague infection. No plague-infected rat was found.

During the month of November, 1912, 10,399 rats and mongoose were examined at Honokaa; and during the same month 4,800 rats and mongoose were examined at Hilo. None were found to be plague infected.

The last case of human plague occurred at Kukuihaele, Hawaii, December 16, 1912. The last plague-infected rat was found at Kukuihaele, Hawaii, November 21, 1912.

PORTO RICO.

Plague Situation.

Passed Asst. Surg. Creel reports:

Rats Examined Dec. 7 to 14, 1912.

Place.	Rats examined.	Rats found infected.
All Porto Rico.....	1,135	11
San Juan municipality:		
San Juan.....	85	
Puerta de Tierra.....	48	
Santurce.....	128	

¹ Found at Caguas.

A summary of the plague situation to December 14, 1912, including human and rodent cases reported or discovered, was as follows: Rats examined, 32,455; rats found infected, 67; human cases, 56; deaths, 36. The last case of plague in man occurred in San Juan September 12, 1912; the last plague-infected rat was found at Caguas during the week ended December 14, 1912.

FOREIGN REPORTS.

DOMINICAN REPUBLIC.

Quarantine against Porto Rico Modified.

According to a resolution of the Dominican national board of health passed December 18 the ports of the Republic are open to all vessels from the island of Porto Rico for passengers only, but not for cargo. The resolution provides that passengers produce a certificate of vaccination or be vaccinated before landing.

INDIA.

Bombay—Plague Mortality.

Consul Norton reports:

From September, 1896, the date of the first outbreak, to the end of February, 1911, the registered mortality from plague in the Presidency has been over 1,766,000. The annual mortality from this scourge has twice been in the neighborhood of 300,000; during two years it was over 200,000; and two years about 100,000.

From 1908 the disease showed signs of abating, but the year 1911 was the worst since 1904 for plague throughout the whole presidency; the deaths numbered over 100,000, against just over 25,000 in 1910.

JAPAN.

Status of Cholera.

Surg. Irwin, at Yokohama, reports:

During the week ended November 23 there were reported in Japan 111 cases of cholera and during the week ended November 30, 94 cases. Most of the cases now occurring are reported in Tokyo and vicinity.

TRACHOMA AMONG ARMY CONSCRIPTS.

Among 433,674 conscripts examined for the army during the year 1912, 104,064 were found affected with trachoma.

RUSSIA.

Odessa—Cholera on Steamship.

During the week ended November 20, 1912, 2 cases of cholera, with 1 death were reported on the steamship *Bosnian* at Odessa, from Constantinople.

The *Bosnian* left London September 30 and arrived at Constantinople November 10.

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX.**REPORTS RECEIVED DURING WEEK ENDED JAN. 3, 1913.**

[These tables include cases and deaths recorded in reports received by the Surgeon General, Public Health and Marine-Hospital Service, from American consuls through the Department of State and from other sources.]

[For reports received from June 29, 1912, to Dec. 27, 1912, see PUBLIC HEALTH REPORTS for Dec. 27, 1912. In accordance with custom, the tables of epidemic diseases are terminated semiannually and new tables begun.]

Cholera.

Places.	Date.	Cases.	Deaths.	Remarks.
Dutch East Indies:				
Borneo—Pontarak	Oct. 6.	1	.....
Java—				
Batavia	Nov. 9-16.	20	16	One case among Europeans.
Madison	Sept. 15-21.	8	8	
Paseroean Residency..	Sept. 20-26.	2	1	
Sumatra—Djambi	Sept. 4-17.	33	14	
India:				
Bombay	Nov. 17-23.	4	1	
Calcutta	Nov. 9-16. ....	.....	19	
Cochin	Oct. 19-25.	5	5	
Russia—Odessa .....	.....	.....	.....	Nov. 18-20, one case from s. s. Bosnian from Constantinople. Confined in the quarantine barracks.
Siam—Bangkok	Oct. 13-Nov. 9. ....	.....	3	
Turkey in Asia .....	.....	.....	.....	Total, Nov. 17-23: Cases, 160; deaths, 218.
Adana—Adana	Nov. 17-23.	2	1	
Aleppo—Alexandretta	do.	2	1	
Angora	do.	24	24	
Brusa	do.	6	16	
Castomoni	do.	2	.....
Diabekir	do.	8	2	
Hedjaz—				
Jidda	Nov. 25-Dec. 8.	369	365	Among returning pilgrims.
Mekka	Nov. 17-23.	111	172	
Ismidt	do.	3	1	
Mosul	do. ....	.....	1	
Smyrna	do.	2	.....
Turkey in Europe—Constantinople.	Dec. 3-9.	540	229	Total since Nov. 5: Cases, 1,457; deaths, 687.
Zanzibar	Nov. 8-21.	81	80	From M'wera, Chwaka, and Moko-toni.
At sea .....	.....	.....	.....	Nov. 18-20, one fatal case on s. s. Bosnian, en route from Constantinople to Odessa.

Plague.

Brazil: Rio de Janeiro	Nov. 3-23.	6	2	
British East Africa: Mombasa..	Oct. 1-31.	12	12	Free Nov. 18.
Dutch East Africa:				
Java—				
Kediri	Oct. 6-12.	29	29	
Madison	do.	8	8	
Paseroean Residency..	do.	42	44	
Surabaya	Oct. 6.	1	1	
India:				
Bombay	Nov. 17-23.	5	5	
Calcutta	Nov. 9-16. ....	.....	4	
Karachi	Nov. 19-23.	2	2	
Peru: Mollendo	Nov. 17-23.	5	2	

Smallpox.

Algeria:				
Departments—				
Algiers	Oct. 1-31.	11	.....
Constantine	do.	11	.....
Oran	do.	118	.....
Austria-Hungary: Galicia	Nov. 10-16.	2	.....
British East Africa: Mombasa..	Oct. 1-31.	40	13	
Brazil:				
Para	Dec. 1-7.	2	.....
Rio de Janeiro	Nov. 3-23.	8	1	

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.**REPORTS RECEIVED DURING WEEK ENDED JAN. 3, 1912—Continued.****Smallpox—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
Canada:				
Ontario—Toronto.....	Dec. 1-21.....	5		
Quebec—				
Montreal.....	Dec. 15-21.....	4		
Quebec.....	do.....	1		
China: Tientsin.....	Nov. 17-23.....		1	
Dutch East Indies:				
Java—Batavia.....	Nov. 9-16.....	5	1	
Egypt: Cairo.....	Nov. 12-Dec. 2.....	1	1	
France: Marseille.....	Nov. 1-30.....		1	
Germany.....	Dec. 8-14.....	2		
India: Bombay.....	Nov. 17-23.....	2		
Mexico:				
Aguascalientes.....	Dec. 9-15.....		1	
San Luis Potosi.....	Sept. 15-21.....	1		
Peru: Mollendo.....	Nov. 24-30.....	1	1	
Portugal: Lisbon.....	Dec. 1-7.....	9		
Russia:				
Odessa.....	Nov. 17-23.....	2		
Warsaw.....	Sept. 22-28.....	3		
Spain:				
Barcelona.....	Dec. 1-7.....		10	
Valencia.....	do.....	6	1	
Switzerland: Basel.....	Nov. 14-20.....	2		
Turkey in Europe: Constanti- nople.....	Dec. 1-7.....		16	
Zanzibar.....	Nov. 8-14.....		1	

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